JUN 1 8 1982
COMPLETED
127
HE20.8110/2:BN/2
ORIGINAL

MENTAL HEALTH SERVICE SYSTEM REPORTS

SERIES BN:
Needs Assessment
and Evaluation

U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
Public Health Service
Alcohol, Drug Abuse, and
Mental Health Administration
National Institute of Mental Health

Series BN No. 2

Interorganizational Relations: A Sourcebook of Measures for Mental Health Programs

BEST DOCUMENT AVAILABLE

MENTAL HEALTH SERVICE SYSTEM REPORTS

Interorganizational Relations: A Sourcebook of Measures for Mental Health Programs

Joseph P. Morrissey, Ph.D.

Richard H. Hall, Ph.D.

Michael L. Lindsey, M.A.

U. S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Alcohol, Drug Abuse, and Mental Health Administration

National Institute of Mental Health
Division of Biometry and Epidemiology,
Office of Program Development and Analysis, and
Division of Mental Health Service Programs
5600 Fishers Lane
Rockville, Maryland 20857

I

BEST DOCUMENT AVAILABLE

This publication was developed by the Special Projects Research Unit, New York State Office of Mental Health, Albany, New York under contract number 80-MO-10551901D from the National Institute of Mental Health.

The authors: Dr. Morrissey and Mr. Lindsey are with the New York State Office of Mental Health; Dr. Hall is with the Department of Sociology, State University of New York -- Albany.

The opinions expressed herein are the views of the authors and do not necessarily reflect the official position of the National Institute of Mental Health or any other part of the U.S. Department of Health and Human Services.

The figures, quotes, or measures appearing on pages 8 -15, 36-43 53-55, 61-65, 73-75, 81-83, 92-94, and 100-102 are copyrighted and are reproduced herein with permission of the copyright holder. Further reproduction of these copyrighted materials is prohibited without specific permission of the copyright holder. All other material contained in this volume (except quoted passages from copyrighted sources) is in the public domain and may be used or reproduced without permission from the Institute or the authors. Citation of the source is appreciated.

Suggested Citation

Morrissey, J.P.; Hall, R.H.; and Lindsey, M.L. **Interorganizational Relations: A Sourcebook of Measures for Mental Health Programs.** National Institute of Mental Health, Series BN No. 2. DHHS Pub. No. (ADM)82-1187. Washington, D.C.: Supt. of Docs., U.S. Govt. Print. Off., 1982.

DHHS Publication No. (ADM)82-1187 Printed 1982

FOREWORD

During the past quarter century, improved treatments and changed attitudes have led to major changes in the location and organizational arrangement of care for the mentally ill. Large self-contained institutions have given way to a variety of community-based programs and facilities, a shift which has vastly increased the complexity of mental health service delivery systems. To be effective, these community-based services frequently require cooperation among a variety of independent organizations with differing goals and responsibilities. Such cooperation is difficult and often only partially successful.

Mental health professionals are accustomed to dealing with relationships. In psychotherapy, for example, great importance is placed upon the relationship between the therapist and the client. Similarly, in program administration, vigorous effort and serious attention must be accorded to relationships among the organizations responsible for care of the mentally ill.

One important aspect of these complex new service systems is the difficulty encountered in efforts to assure their accountability and evaluate their efforts. To date, most studies and systems for accountability and program evaluation have focused upon single organizations or programs, and the measures devised for these purposes have accordingly sought to measure the success of a single entity in attaining specific goals. However, efforts by the National Institute of Mental Health to evaluate the Community Support Program for the chronically mentally ill have demonstrated that measurement of interorganizational relationships is necessary to adequately assess such community programs and that methods to measure such interrelationships are not readily available.

Our difficulty in locating already developed and proven techniques suitable for assessing interorganizational relationships suggested a need to develop such measures. This developmental effort seemed best initiated by a careful search for previous attempts to assess interorganizational relationships. The present report is the product of an initial study to summarize past efforts in this area. Our hope is that the information in this review will be useful to those wishing to study systems of care. In addition, we hope the report will stimulate further research aimed at filling gaps in our current knowledge of interorganizational relationships in mental health care.

J. Richard Woy, Chief
Program Analysis and Evaluation Branch
Office of Program Development and Analysis
National Institute of Mental Health

Charles Windle, Chief
Community Mental Health Services Section
Division of Biometry and Epidemiology
National Institute of Mental Health

EXECUTIVE SUMMARY

This sourcebook presents an overview of 26 concepts and 35 measures currently used in the field of interorganizational research. It was prepared as a resource guide for program evaluators and researchers concerned with ways of assessing the interorganizational aspects of mental health and related service delivery systems. The sourcebook contains 10 chapters, an appendix, and an extensive bibliography on interorganizational relationships.

Chapter I consists of an introduction which reviews the history and key themes explored in interorganizational research and discusses the relevance of relationships between organizations for mental health system assessments. Three areas of application are identified--system description, system change, and system evaluation--and illustrated in relation to current services initiatives in the mental health field.

Chapter II presents an overview of conceptualization and measurement in interorganizational research. This orienting statement highlights the theoretical and substantive foci of the field and the multiple units of analysis involved in interorganizational studies. It also offers a number of observations on measurement practices in this field.

Chapter III presents the methods employed in the review of the literature along with the analytical framework developed to organize and profile individual concepts and measures. This framework consists of seven categories which provide a comprehensive way of analyzing interorganizational relationships: (1) **environmental context,** (2) **situational factors,** (3) **bases of interaction,** (4) **resource flows,** (5) **transaction structures,** (6) **transaction processes,** and (7) **outcomes.**

Chapters IV through X present detailed profiles of the concepts and measures contained in these seven categories. Each chapter follows a common format. The significance of the category or analytical dimension is first described along with its major subconcepts. Each subconcept is then profiled in terms of conceptualization and use, measure(s), study description, data collection, computation, methodological adequacy (including validity and reliability data where available), and key references in the literature.

ACKNOWLEDGMENTS

This sourcebook was commissioned by the Office of Program Development and Analysis, the Division of Biometry and Epidemiology, and the Division of Mental Health Service Programs of the National Institute of Mental Health (NIMH) in collaboration with the Special Projects Research Unit, Policy Planning and Program Development Division, New York State Office of Mental Health. Howard Goldman, Charles Windle, and Richard Woy served at various times as the NIMH Project Officers.

A number of researchers in the interorganizational field provided copies of their unpublished papers which were instrumental in the preparation of this sourcebook; in particular, Andrew Van de Ven and Joseph Galaskiewicz, University of Minnesota; David Whetten, University of Illinois; and Charles Mulford, Iowa State University.

The final version of this sourcebook benefited from the professional review by several people of an earlier draft of the manuscript: Joseph Galaskiewicz, University of Minnesota; Richard Tessler, University of Massachusetts-Amherst; Howard Goldman, University of California-San Francisco Medical Center; and the following NIMH staff members: Charles Windle, Richard Woy, Barbara Burns, and Judith Jacobs.

Plenum Publishing Corporation; Prentice-Hall, Inc.; The Sociological Quarterly; and John Wiley & Sons, Inc. granted permission to use copyrighted materials.

CONTENTS

		Page
Foreword		iii
Executive Summary		iv
Acknowledgments		v
I.	**Introduction**	1
	Relevance of Interorganizational Analysis for Mental Health System Assessments	3
	Purpose and Scope	6
II.	**Conceptualization and Measurement of Interorganizational Relationships**	8
	Forms and Levels of Analysis	10
	Measurement Considerations in Interorganizational Research	17
	Units of Analysis	19
	Sources and Types of Data Collection	21
	Number of Observations	21
	Validity and Reliability	22
	Generalizability	23
III.	**Literature Review Methods and Conceptual Framework**	24
	Methods of Procedure	24
	Conceptual Framework	25
	Measurement Profiles	27
IV.	**Environmental Context**	29
V.	**Situational Factors**	35
	Agency Awareness	35
	Domain Consensus	38
	Domain Similarity	41
	Geographical Proximity	43
	Localized Dependency	44
	Size	46
VI.	**Bases of Interaction**	49
	Voluntary vs. Mandated Interactions	49
	Ad Hoc vs. Formalized Interactions	52
	Bargaining or Exchange Interactions	55
	Interpersonal Ties	57

Page

VII. **Resource Flows** 60
Resource Interdependence 60
Intensity 63
Joint Programs 67
Director Interlocks 70

VIII. **Transaction Structures** 73
Interaction Formalization 73
Interaction Standardization 75

IX. **Transaction Processes** 78
Importance 78
Frequency 79
Reciprocity 83
Power and its Correlates 85
Cooperation 88
Conflict 90
Conflict Resolution 92
Coordination 96

X. **Outcomes** 99
Effectiveness 99
Other Outcome Considerations 104

Appendix: Index of Concepts and Measures 105

References 107

LIST OF FIGURES

Figure

1. Levels for Examining Interorganizational Relationships 11
2. The Organization-Set and Interaction Frequency 12
3. The Organization-Set and Formalization of Relationships . . . 13
4. The Organization-Set and Patterns of Conflict-Cooperation . . . 14
5. Another Type of Organization-Set 15

I

INTRODUCTION

Planning for the development and evaluation of mental health and other types of human services has relied heavily on the techniques and methodologies of the social sciences and on the skills and interests of social researchers. In the early 1950s, sociologists, in particular, later joined by economists, political scientists, and psychologists, began to conduct community surveys to evaluate programs of planned social change and to undertake research in areas of social policy. The majority of these inquiries focused on the consumer or recipient of direct services as the unit of analysis but neglected the organizational structures and processes associated with the interventions (Jones, 1971).

Since the early 1960s, however, this imbalance has been gradually redressed by an expanding body of literature focused on the organization--its internal structure, dynamics, and external environment--as a social context mediating practitioner-client interactions and as a legitimate unit of study in its own right. One distinct subarea focuses on the patterns of interaction among organizations. Although this subject matter is closely related to the fields of community organization and social planning, it is now subsumed under the rubric of **interorganizational relations,** a multidisciplinary research field occupying an interstitial position between studies of individual organizations and of whole communities.

As a distinctive area of research, interorganizational analysis has led to the recasting of problems long familiar to the mental health and social welfare fields in a new conceptual framework. Its intellectual roots can be traced to developments in organizational theory during the 1950s. Theorists began to move away from an exclusive concern with the internal structure and dynamics of organizations as essentially closed systems, toward an increasing recognition of the interdependency between organizations and their environments, and the essentially open-system character of many organizational forms (Selznick, 1949; Thompson and McEwen, 1958; Dill, 1958; Long, 1958). In the social welfare field, studies began to document the fragmentary nature of service delivery, the competitive relations among service providers, and the need for greater coordination of health and welfare programs in the public sector (Johns and DeMarch, 1951; Buell and Associates, 1952). However, it was only in the 1960s that these parallel concerns began to be united under the press of the New Frontier and Great Society programs of the Kennedy and Johnson administrations. In a relatively short time span, massive programs of planned social intervention were launched in the areas of community mental health, delinquency, poverty, and urban renewal, among others. Each new Government program contributed to the proliferation and differentiation of health and welfare agencies and the creation of new interagency coalitions. The enormous growth in research and evaluation monies earmarked for the implementation and assessment of these "social experiments" attracted numerous investigators to the health and welfare fields. This constellation of forces proved to be

propitious for the linkage of academic and practical interests, and the core ideas of the new field of research began to take shape.

The principal topic to which interorganizational analysis has been directed relates to the coordination and integration of human services (Litwak and Hylton, 1962; Levine et al., 1963; Reid, 1964; Mott, 1968; Kahn, 1969; Cox et al., 1970; Litwak and Rothman, 1970; Klonglan and Paulson, 1971; Baker and O'Brien, 1971; Aldrich, 1972a; Mayer, 1972; Benson et al., 1973; Warren et al., 1974; Aiken et al., 1975; Lehman, 1975; Rieker et al., 1976; Van de Ven et al., 1979; Goldman et al., 1980; Rogers and Whetten, 1981). A litany of terms has been used to describe the patchwork of fragmented and discontinuous health and welfare services with which consumers are confronted (Rein, 1970). In one form or another, this state of affairs has been attributed to the excessive autonomy of service agencies and to their attempts to preserve prerogatives about problem definition, intervention priority, and client disposition (Greenley and Kirk, 1973; Levine, 1974). From a community organization perspective, the historic response has been to seek a pattern of coordinated services by relying upon procedures that would ensure the autonomy of the individual organizations in areas of conflict, while at the same time permitting their unified effort in areas of agreement (Litwak and Hylton, 1962). The experience with voluntary coordination mechanisms in the human services field, however, has been rather dismal (Warren, 1973). More recently, greater attention has been paid to the managed forms of coordination in concerted decisionmaking among service agencies as well as to the ways conflict can result from such cooperative actions (Morris and Hirsch-Lescohier, 1978). The relative efficacy of these forms, however, has yet to be carefully documented and their impact remains to be objectively assessed (Mott, 1968; Aldrich, 1978).

A decade of recession and inflation in the 1970s, in combination with the current climate of social and fiscal conservatism, has eroded the support base for large-scale intervention programs, but issues of services coordination are still salient today. Public policies are now predicated on austerity and consolidation, and current forecasts indicate that few large social programs or new human services initiatives will be funded (Goldman et al., 1980). Instead, relatively modest programs that make limited demands on scarce resources have been advanced to coordinate existing health and welfare services. In the mental health field, this strategy underlies a number of initiatives sponsored by the National Institute of Mental Health including Community Support Programs for chronic mental patients (Turner and TenHoor, 1978), Primary Health Care-Community Mental Health Center linkage projects (Broskowski, 1980; Goldman et al., 1980), and the Most-In-Need Program for child mental health services (MIN, 1979). Thus, the development and evaluation of interorganizational service delivery systems in the mental health arena continue to be a policy concern.

There has been enough research and informed assessment to demonstrate that there are costs as well as potential benefits both to coordination and to autonomy of service providers (Zald, 1969b; Landau, 1969; Warren, 1973; Warren et al., 1974; Rogers and Whetten, 1981). Only if these costs and benefits are closely examined and weighted can effective policies be implemented. Notwithstanding a continuing emphasis on the integration or consolidation of mental health and related human services at the Federal, State, and local governmental levels, greater attention must be focused on coordination-integration of what (tasks, functions), for what or for whom (purposes, beneficiaries, outcomes), and by what or to what extent (structures, processes). The analytical tools developed in the field of interorganizational relations offer a framework for addressing these important issues.

Relevance of Interorganizational Analysis for Mental Health System Assessments

The Community Mental Health Centers (CMHC) Program, initiated in the mid-1960s, was the first large-scale effort to develop a system of services in the mental health field (Ozarin, 1968; Schulberg and Baker, 1970; Ozarin and Feldman, 1971; Becker, 1972). Most CMHCs were developed out of preexisting agencies such as outpatient clinics and general hospital psychiatric units, which either increased the range of their services to meet the Federal requirements or negotiated with other agencies to mount a comprehensive array of services. The ideal result was for a central, integrating agency to facilitate the transfer of clients, personnel, information, and support services among the multiple organizations in a CMHC network (National Academy of Public Administration, 1971; Baker and Issacs, 1973; Rieker et al., 1976). By linking organizations which provided complementary services and creating new services where needed, CMHCs were expected to develop a comprehensive, accessible, and continuous system of services for all persons in need of mental health care.

By 1980, 789 CMHCs had received Federal funding totaling more than $2 billion, and over 50 percent of the U.S. population lived in areas served by these centers. Despite these signs of success, the CMHC Program came under considerable attack in the late 1970s. Critics have argued that CMHCs developed as a separate system without formal linkages to the State mental hospitals, oriented their services primarily to new or underserved populations in their local communities, and failed to meet the needs of chronic mental patients (Chu and Trotter, 1974; Windle and Scully, 1976; Bassuk and Gerson, 1978; President's Commission on Mental Health, 1978).

Two recent demonstration programs sponsored by the National Institute of Mental Health also rely upon system change and services coordination strategies: the Community Support Program for chronic mental patients and mental health-primary medical care linkage programs.

The goals of the Community Support Program (Turner and TenHoor, 1978) were to coordinate mental health, medical, rehabilitation, housing, and other psychosocial support services for the long-term care of chronic mental patients in the community. Consistent with this approach, a number of demonstration programs in various parts of the Nation established linkages (formal and informal interorganizational relationships) among otherwise autonomous service providers in order to promote resource sharing, joint planning, and continuity of care for chronic mental patients (e.g., Lannon, 1981). The experience of these demonstration programs provides models for nationwide implementation and replication (Tessler and Goldman, 1982).

The CMHC-Primary Health Care Projects (PHCP) have focused on linkage development between mental health and medical care organizations for the identification and treatment of patients with a mental disorder who receive care in a primary health care setting (Broskowski, 1980; Goldman et al., 1980). Each of the pilot medical care projects hired a mental health "linkage worker" to perform liaison functions (triage, referral, and consultation) with an affiliated CMHC. Project implementation necessitated the formulation of common goals, a mutually agreed upon division of labor and responsibility, and a common form of interaction for the planning and administration of linkage activities. In this sense, although limited in scope and involving only two organizations, the CMHC-PHCP initiatve also represents a form of interorganizational coordination.

The concern with development and assessment of mental health service delivery systems reflected in these NIMH initiatives transcends the traditional emphases of evaluation research. The focus in most evaluation studies is on client and program variables. The goals are (1) to ascertain the impact of service delivery on client functioning and (2) to specify which aspects of a treatment program contribute to client outcomes in an efficient and effective way (e.g., Suchman, 1967; Riecken and Boruch, 1974; Campbell and Stanley, 1969; Attkisson et al., 1978). When attention shifts from the recipients of services within individual organizations to systems of services, a new level of analysis is introduced which requires assessments of transactions between a variety of service organizations and their larger social environment.

Systems-thinking has received considerable attention in the social and behavioral sciences, especially in relation to the study of complex organizations (Katz and Kahn, 1966; Miller and Rice, 1967; Miller, 1972; Baker, 1973). A "system" is typically viewed as an organized whole unit which includes the interactions of its interdependent component parts and its relationship to the environment (Buckley, 1967). As Murrell (1973:90) notes "...(a) system functions as something other than the mere sum of its component parts; its **organization,** the relationship of its components to one another, must be recognized." As applied to the field of interorganizational relationships, systems-thinking postulates that the scope of analysis among a set of organizations is something more than the pairwise relationships between organizations. "Here emphasis is on... an aggregate of emergent outcomes of the interaction of many paired interactions" (Aldrich, 1972a:54). The focus is thus on clusters of independent organizations that join together and act as a collectivity to achieve special-purpose objectives (Van de Ven et al., 1974). The component organizations are viewed as dependent upon one another in some fashion, and oriented toward the attainment of goals that require their coordinated action.

While the early literature in the field of interorganizational relations is based largely on conceptual and theoretical statements, a growing number of empirical studies have become available in the past decade. These studies are informed by a variety of interpretative frameworks such as social exchange (Levine and White, 1961; Cook, 1977), resource dependency (Aldrich and Pfeffer, 1976; Pfeffer and Salancik, 1978), population-ecology (Hannan and Freeman, 1977; Aldrich, 1979), and political-economy (Benson, 1975). Despite this theoretical diversity, there is a core set of concepts and methods of interorganizational research that can be used in the monitoring and assessment of planned changes in mental health and other human service delivery systems.

Interorganizational research techniques are not a substitute for client and program analyses. Rather, they provide a complementary framework for documenting the antecedents, concomitants, and consequences of system-level service intervention efforts. There are three areas of application--**system description, system change**, and **system evaluation**--in which interorganizational analyses are relevant for the assessment of mental health system development activities (Morrissey, 1982).

At the **systems description** level, interorganizational studies can establish a baseline or profile of interagency relationships prior to the introduction of a planned change. The profile would consist of an inventory of agencies (in terms of their size, functions, professional composition, locus of authority, resource base, etc.) and a mapping of their preintervention linkages. Relevant linkage information would include the extent of competition versus sharing of resources, facilities, clients, and staff; the

degree of role clarity among the agencies; and the extent to which they share a compatible set of theories, values, and ideologies concerning the proposed intervention. Such descriptive information can be used to identify available resources, service gaps, and potential barriers to program development.

At the **systems change** level, interest shifts from a snapshot view of preintervention interorganizational relationships to their configuration at one or more subsequent time periods. At issue is the extent to which systems operations have changed as a result of the intervention, and the nature of obstacles that continue to block the achievement of program goals. The logic of analysis in establishing cause-effect sequences is formally the same as that in traditional program evaluation studies (Campbell and Stanley, 1969), but the data base is quite different. Interest centers on the interorganizational aspects of the program (e.g., degree of interdependency, joint activities, coordination, competition) as a way of both indexing levels of systems development and measuring changes within service delivery networks (e.g., structures, processes, outputs) over time. Systems change (both anticipated and unanticipated) can be documented by periodic updates and comparisons of the baseline inventory of organizations and their interorganizational linkages as noted above.

At the **systems evaluation** level, interest centers on the assessment of programmatic impacts on the problems that the intervention was designed to remedy. A full systems evaluation typically involves the specification of performance measures for the entire system and an assessment of environmental constraints, system resources, activities of system components relative to performance indicators, and the management of the system (Churchman, 1968:28-47). Here we will restrict ourselves to a consideration of performance measurement in mental health systems evaluation and the ways in which interorganizational analysis can contribute to this process.

As part of the growing emphasis on accountability in the delivery of human services, many public agencies have been required to meet a variety of performance standards or performance measures as a condition for funding (National Institute of Law Enforcement and Criminal Justice, 1976; Wholey, 1979; Connolly and Deutsch, 1980). Requirements for performance evaluations were a core feature of the Mental Health Systems Act, although specific performance indices were not promulgated prior to its repeal (Keppler-Seid et al., 1980). Nonetheless, the range of potential criteria that might be used in service system evaluations can be gleaned from the following list which is based on Attkisson et al., (1978:6-7):

- o Improvement in clients' status
- o Reduction in incidence and prevalence of problems addressed
- o Awareness of services among citizenry
- o Acceptability of services to clients
- o Level of service availability and continuity achieved over time
- o Adequacy of service volume relative to need
- o Appropriateness of clients served relative to high risk groups or mandated target populations
- o Linkage of clients to other necessary and appropriate services
- o Reduction in barriers to accessibility over time
- o Costs per unit of service
- o Cost-effort-outcome-effectiveness comparisons for different target groups
- o Financial viability of component services and organizations

The logic of mental health systems integration or coordination projects is based on the assumption that there is a pattern of covariation between these output or performance criteria and the interorganizational structure of the service delivery system. For example, it is assumed that a multiplicity of autonomous service providers leads to incomplete, fragmented, and redundant services, while a network of interdependent and coordinated agencies will yield more comprehensive, accessible, continuous, and cost-efficient service patterns.

Systems evaluation studies can be designed to test these assumptions. Interorganizational concepts and measures can be used as a set of independent or predictor variables to explain variations in these performance outcomes or dependent variables. Comparative studies of the structure and dynamics of different interorganizational service delivery models in relation to performance outcomes would go a long way toward assisting program managers and policy makers in the implementation of responsive and effective mental health programs.

In sum, the concepts and methods of interorganizational analysis provide a framework for **describing** the relationships among mental health and human service agencies, **documenting** the extent to which these relationships change in response to systems interventions, and **evaluating** whether systems change results in higher levels of system performance. These research tools can be used in concert with existing program evaluation techniques to gain insights about the behavior of multiorganizational service systems and the ways in which these systems can be modified to meet client needs.

Documentation about the concepts and measures used in interorganizational research, however, is scattered throughout a number of sociological and management science journals, research monographs, and unpublished reports. As a result, it is difficult for program evaluators, policy analysts, and researchers to gain access to these techniques and to adapt them to studies of the mental health service system. This sourcebook was developed to meet the need for a reference guide to the interorganizational research literature and to the measures currently used in this field.

Purpose and Scope

Our focus in this book is on strategies and techniques of measurement rather than research findings or a formal exposition of interorganizational theory. Such statements are available from other sources (Aldrich, 1979; Evan, 1978; Rogers and Whetten, 1981; Aldrich and Pfeffer, 1976; Hall, 1982). Our goal is to present an inventory of measures already in use rather than to design new measures or to suggest ways in which unmeasured variables may be quantified. As a relatively new field of research, interorganizational analysis is still at a rather early stage of methodological development and many research practices remain to be fully validated or refined. Throughout this sourcebook we offer suggestions for methodological refinement, but we do not attempt to resolve the problems in any systematic way.

Our work is based on a detailed review of the interorganizational research literature in social and management sciences, mental health, and human services. Primary attention was placed on identifying and abstracting research reports published in the United States during the period 1970-1981. We supplemented these sources by obtaining copies of unpublished reports and working papers from several of the leading researchers in this field.

The results of our work are presented in the following chapters. In Chapter II, we provide an overview of the conceptualization and measurement of interorganizational relationships. This orienting statement highlights the theoretical and substantive foci of the field and the multiple forms and units of analysis involved in interorganizational research. These forms encompass the ways in which interactions between organizations are conceptualized in terms of dyadic (pair-wise), organization-set, and network configurations. We then present an overview of measurement considerations in interorganizational research. The topics considered there are units of analysis, sources and types of data collection, number of observations, validity and reliability, and generalizability of findings. These discussions highlight a number of methodological issues that recur in our assessment of the adequacy and relevance of the measurement practices in this field.

Chapter III contains a discussion of the methods we used in our review of the literature, the problems encountered, and the choices we made in selecting individual measures. In addition, this chapter presents the framework we developed to organize the concepts and measurement profiles and some guidelines for locating individual measures.

Chapters IV through X present a conceptual overview and profile for the 26 concepts and 35 measures derived from our literature review. These chapters correspond to the seven categories of our analytical framework starting with **environmental context** and followed in turn by **situational factors, bases of interaction, resource flows, transaction structures, transaction processes,** and **outcomes.** The sourcebook concludes with an appendix of the concepts and measures presented and a complete list of references to the literature cited.

Our concern from the outset has been to organize and present measures relevant to mental health and human service programs. The concepts and measures presented in this sourcebook, however, are not limited to such applications. We believe that the information contained in this book will be useful to practitioners and researchers alike who are concerned with ways of analyzing what goes on between organizations and how these relationships affect overall system functioning.

We view the product of our work as a guide to further research as well as a compendium of available measurement strategies. The interorganizational research field is in a period of rapid development. We hope that some of the deficiencies noted in this book will be remedied in future studies. We believe that this sourcebook can serve as a guide to the field and a vehicle for encouraging further methodological refinement. This area of research is still being charted and new investigators can make fundamental contributions to theory and methods. This book, then, is offered as a guide to those seeking the challenge of participating in an exciting and unfolding area of research that has considerable relevance for improving the delivery of mental health and related human services.

II

CONCEPTUALIZATION AND MEASUREMENT OF INTERORGANIZATIONAL RELATIONSHIPS

All organizations have relationships with other organizations. Some are relatively trivial, while others are of central importance for the individuals and organizations involved. Some relationships have strong societal impacts, while others do not. Before moving to consideration of methodological issues involved in interorganizational research, it will be helpful to consider some of these variations.

Most organizations have vending machines of one sort or another. Coffee, candy, cigarettes, soda, and so on are available for employees at the drop of several coins. For the employing organization, the contract with the vending machine company is probably a rather trivial factor in their overall operations. For the vending machine company, a particular contract may be trivial or crucial, depending upon the scope of their operations and the size of a particular contract.

Colleges and universities engage in many forms of interorganizational relationships. One of these involves intercollegiate athletics. Stern (1979;1981) has detailed the manner in which the National Collegiate Athletic Association (NCAA) has risen to a position of dominance in this set of organizations. The NCAA has acquired the power to regulate and control intercollegiate athletics. Individual institutions have thus lost some power in this area which is very important to those institutions which emphasize intercollegiate athletics.

Clients of mental health and human service organizations are vitally affected by interorganizational relationships. A common practice is client referral. Theoretically, if one agency is unable to provide the needed services for a particular client, the individual is referred to an appropriate agency for service. What happens in practice is that clients who are easily treated or who can pay for services tend not to be referred, while the more difficult or less rewarding ones are referred, with some of the most difficult cases "falling between the cracks" of the referring set of organizations (Greenley and Kirk, 1973; Kirk and Greenley, 1974).

At the societal level there has been a long standing concern with the actual and potential power of the military-industrial complex. This refers to interorganizational patterns linking the military with industry into a powerful set of organizations which can dominate other spheres of life (Perrow, 1979).

As a consequence, organizational theorists have increasingly recognized the importance of interorganizational relationships. Cook (1977:62-63), has neatly summarized this growing awareness in the following way:

> During the past decade there has been growing interest among organizational theorists in organization environment

relations (c.f., Dill, 1958; Emery and Trist, 1965; Lawrence and Lorsch, 1967a, b; Maniha and Perrow, 1965; Pfeffer, 1972a; Simpson and Gulley, 1962; Terreberry, 1968; Thompson and McEwen, 1958; Duncan, 1972; Aldrich, 1974) and interorganizational relations (c.f., Reid, 1964; Aiken and Hage, 1968; Braito et al., 1972; Clark, 1965; Evan, 1966; Guetzkow, 1966; Levine and White, 1961; Litwak and Hylton, 1962; Pfeffer, 1972b, Thompson, 1967; Turk, 1970, 1973; Warren, 1967; Warren et al., 1974; Aldrich, 1972b, 1974; Marrett, 1971; Allen, 1974; Benson, 1975; Lehman, 1975). Several factors account for this trend. First, organizational theorists have recently begun to conceptualize organizations as 'open', adaptive systems rather than 'closed' systems (c.f., Thompson, 1967; Katz and Kahn, 1966). According to Buckley, that a system is open means, not simply, that it engages in interchange with the environment, but that the interchange is an essential factor underlying the system's viability (1967:50). Thus, the environment has been defined as an important element for those who adopt the open systems model, not only as the social context in which organizations exist, but also as an important determinant of organizational structure and process.

A second contributing factor to this development in organizational theory has been the growing awareness on the part of organizational theorists that previous research on organizations (primarily case studies of single organizations) does not adequately provide an understanding of the complex social structure of rapidly changing urban communities (c.f., Etzioni, 1960; Turk, 1970, 1973; Warren, 1967; Warren et al., 1974). Not only is the environment becoming more complex and turbulent (Terreberry, 1968), but the web of organizations within communities is becoming increasingly complex, interrelated, and extensive (Turk, 1973). Previous theoretical perspectives have provided few guidelines for analyzing the effects of these factors upon organizational life. These realities have prompted increasing concern over the duplication of organizational efforts, overlapping domains of organizational activity, coordination of diverse elements within a community, and the integration of and control over various organizational functions, especially with reference to organizations in the social service sector (c.f., Reid, 1964; Warren, 1967; Warren et al., 1974; Zald, 1969b; Baker and O'Brien, 1971; Lehman, 1975). Theorists have begun to conceptualize cities and communities as networks of organizations or 'aggregates of organizations which appear, disappear, change, merge, and form relations with one another' (Turk, 1970:1), and research efforts have been mounted to assess the utility of this approach for the investigation of macrosociological phenomena. Turk (1970:16) has suggested that the evidence concerning the fruitfulness of this approach is sufficient to prompt the

question, "Is the organization not the proper unit in the analysis of modern, large scale social systems?"

In the above quote, Cook identifies the intellectual roots and diversity of interests in the study of interorganizational relationships. In this sourcebook, we will not be concerned with the issues of cities and communities, but rather with the conceptualization and measurement of interorganizational relations in their own right. In order to do so, we will first examine the variety of forms of interorganizational relationships which can be identified. We will also identify several levels of analysis which can be used in the analysis of interorganizational relationships.

Forms and Levels of Analysis

There is general agreement that interorganizational relationships have three basic forms: dyads, sets, and networks. These are illustrated in figure 1. The dyad or **pair-wise relationship** is the simplest form of interorganizational relationship and has probably received the most attention in empirical research. The **organization-set** idea was derived from Merton's (1957) analysis of role sets. Evan (1966) and Caplow (1964) introduced the organization-set idea into the literature. The emphasis is on a focal agency (FA in figure 1) and its dyadic relationships with other organizations. As Van de Ven and Ferry (1980) note, it is possible to trace the impact of changes in one dyadic relationship on other pair-wise relations within the set. Aldrich (1979) has introduced the "action set" as a variation on the idea of an organization-set. An action set is composed of a group of organizations formed in a temporary alliance for a limited purpose. According to Aldrich (1979:281) "Action sets may have their own formalized agreements, internal division of labor, behavioral norms vis-a-vis other organizations, and clearly defined principles for the recruitment of new members."

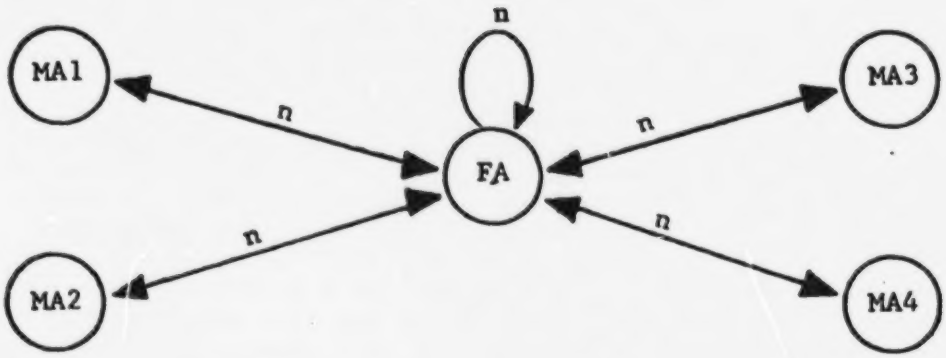
The most inclusive form is the **interorganizational network.** Networks consist "of all organizations linked by a specified type of relation, and (are) constructed by finding the ties between all organizations in a population" (Aldrich, 1979:281). Van de Ven and Ferry (1980:299) define the network as "... the total pattern of interrelationships among a cluster of organizations that are meshed together in a social system to attain collective and self-interest goals or to resolve specific problems in a target population." The Van de Ven and Ferry approach stresses the network in areas such as social or health service delivery within a community and would include all of the organizations in that network of service delivery. The Aldrich approach is different in that it does not concern itself with collective goals or target groups, but focuses instead on linkages, such as financial or other resource transactions. Personnel or client flows would be the linkages in the Aldrich scheme. In reality, an empirical analysis would probably find extensive overlap between the two approaches, since organizations linked by resource flows in the mental health care area would also probably be those identified following the Van de Ven and Ferry framework.

Before turning to the issue of levels of analysis among these patterns of interorganizational relationships, it should be noted that an analyst can focus on a variety of dimensions within these forms. Figures 2 through 5 illustrate the complexity that exists when the organization-set concept is used. The example is drawn from research on the social control system for problem youth (Hall, 1977; Hall et al., 1977). Figure 2 indicates the organizations in interaction with a focal organization, in this case the police. The frequency of the interaction is also indicated. Figure 3 indicates

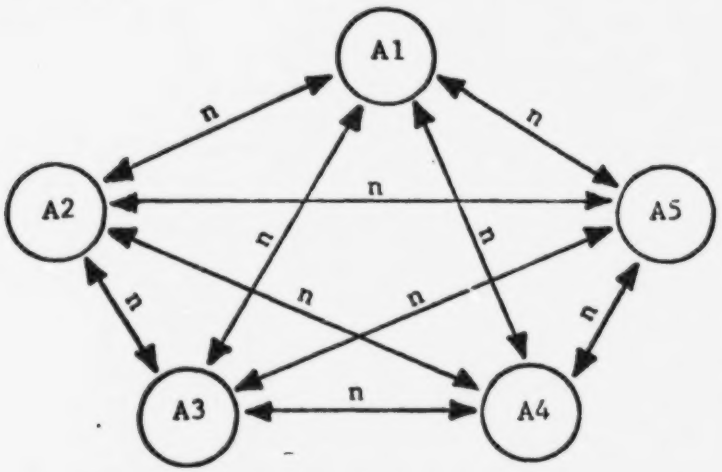
Figure 1. Levels for examining interorganizational relationships

A. Pair-Wise Inter-Agency Relationship

B. Organization-Set



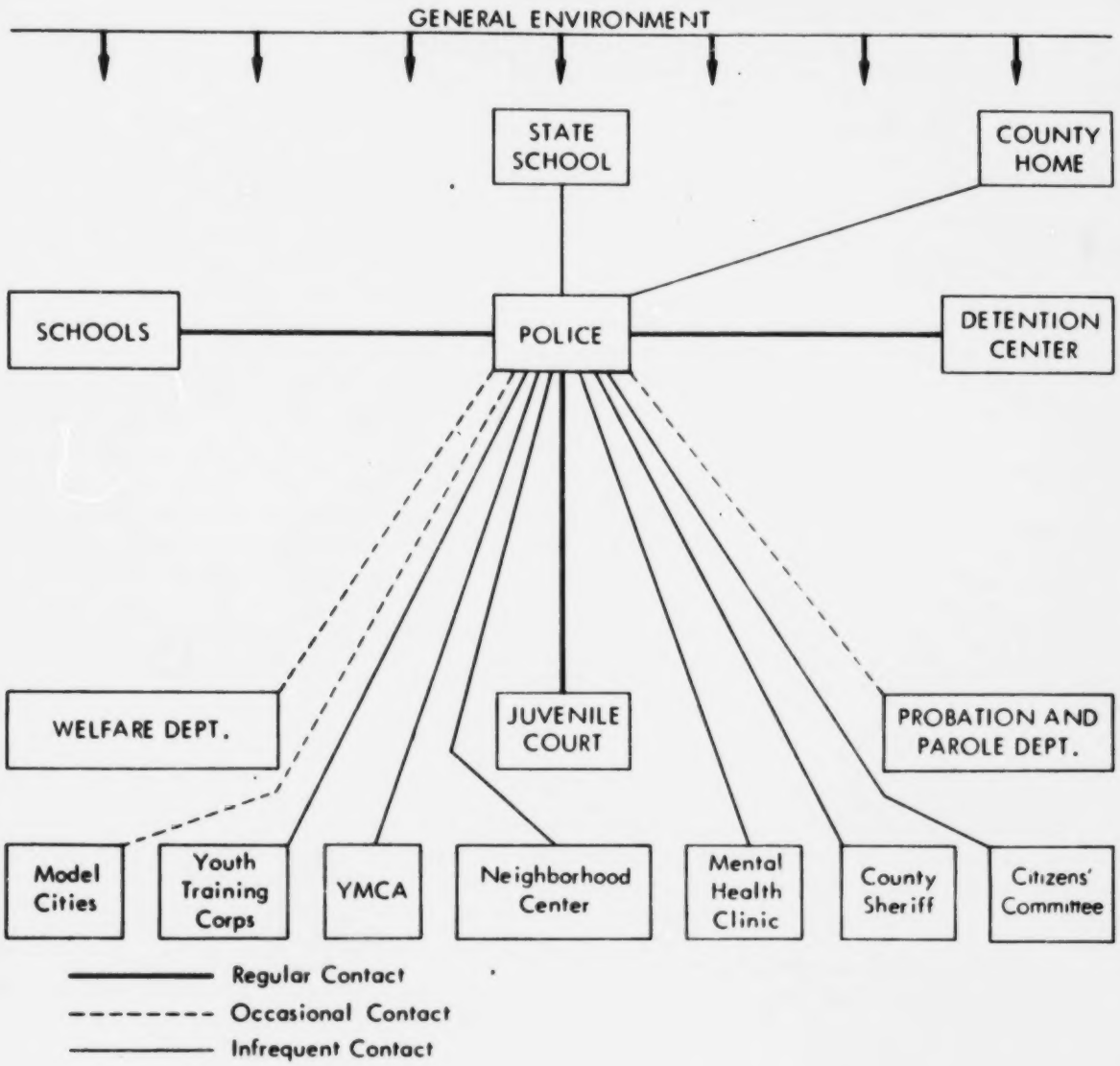
C. Interorganizational Network



Source: Adapted from Andrew Van de Ven et al., "Coordination Patterns Within an Interorganization Network." **Human Relations** 32,©1979, p. 21. Reprinted by permission of Plenum Publishing Corporation, New York, N.Y.

BEST DOCUMENT AVAILABLE

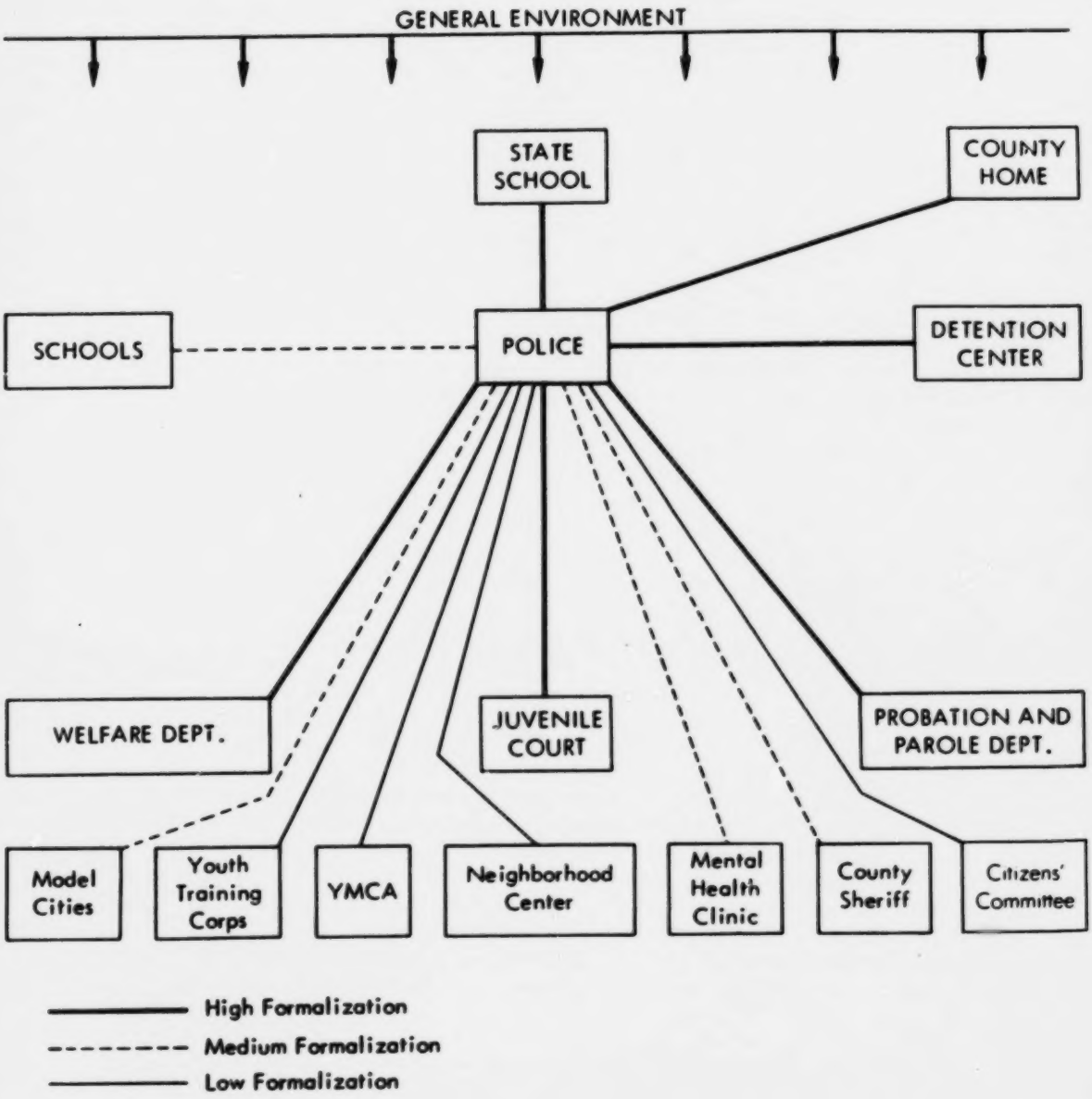
Figure 2. The organization-set and interaction frequency



Source: Richard H. Hall, **Organizations: Structure and Process**, 2nd ed., © 1977, p. 323. Reprinted by permission of Prentice-Hall, Inc., Englewood Cliffs, N.J.

BEST DOCUMENT AVAILABLE

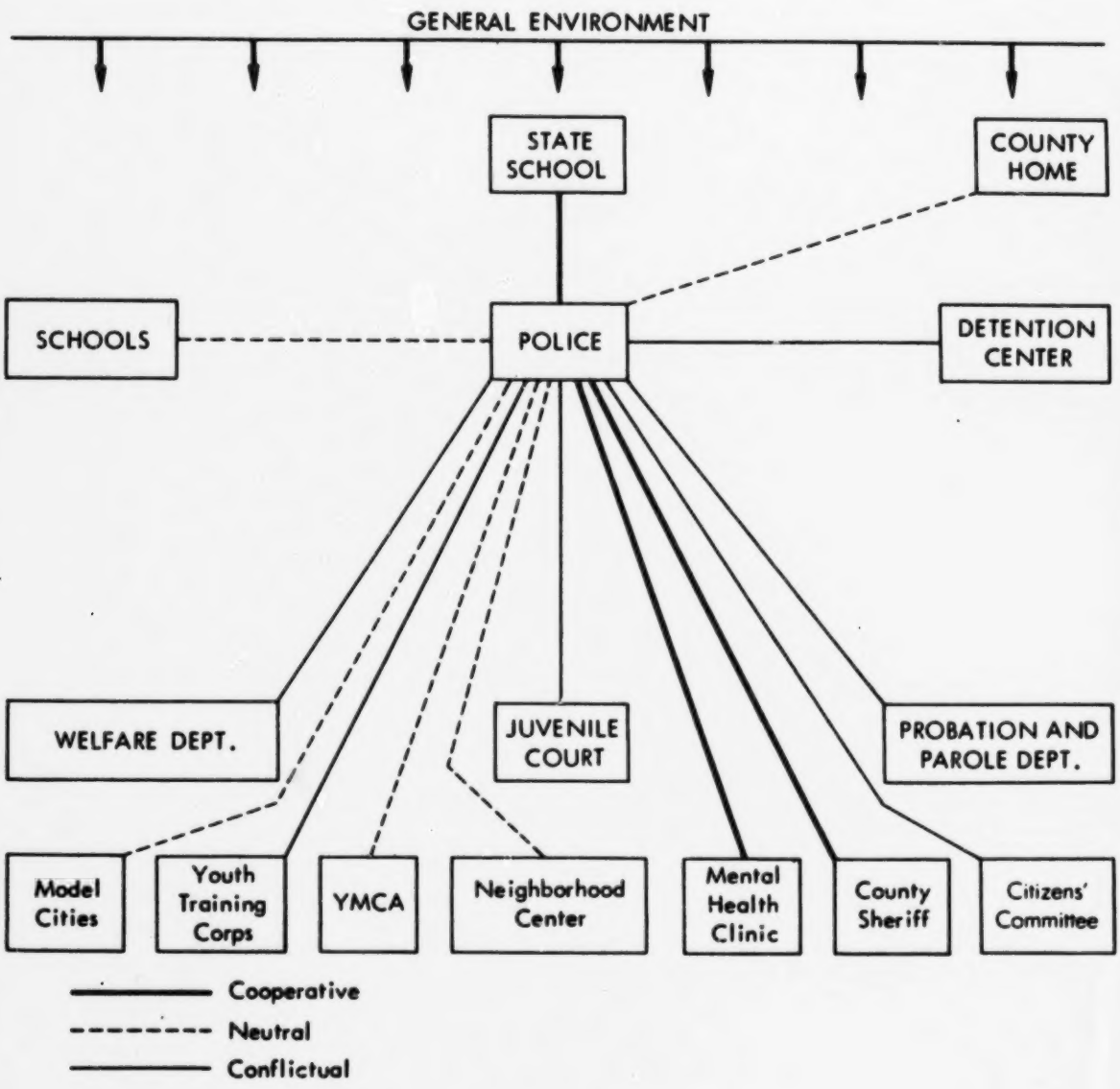
Figure 3. The organization-set and formalization of relationships



Source: Richard H. Hall, **Organizations: Structure and Process**, 2nd ed., © 1977, p. 324. Reprinted by permission of Prentice-Hall, Inc., Englewood Cliffs, N.J.

BEST DOCUMENT AVAILABLE

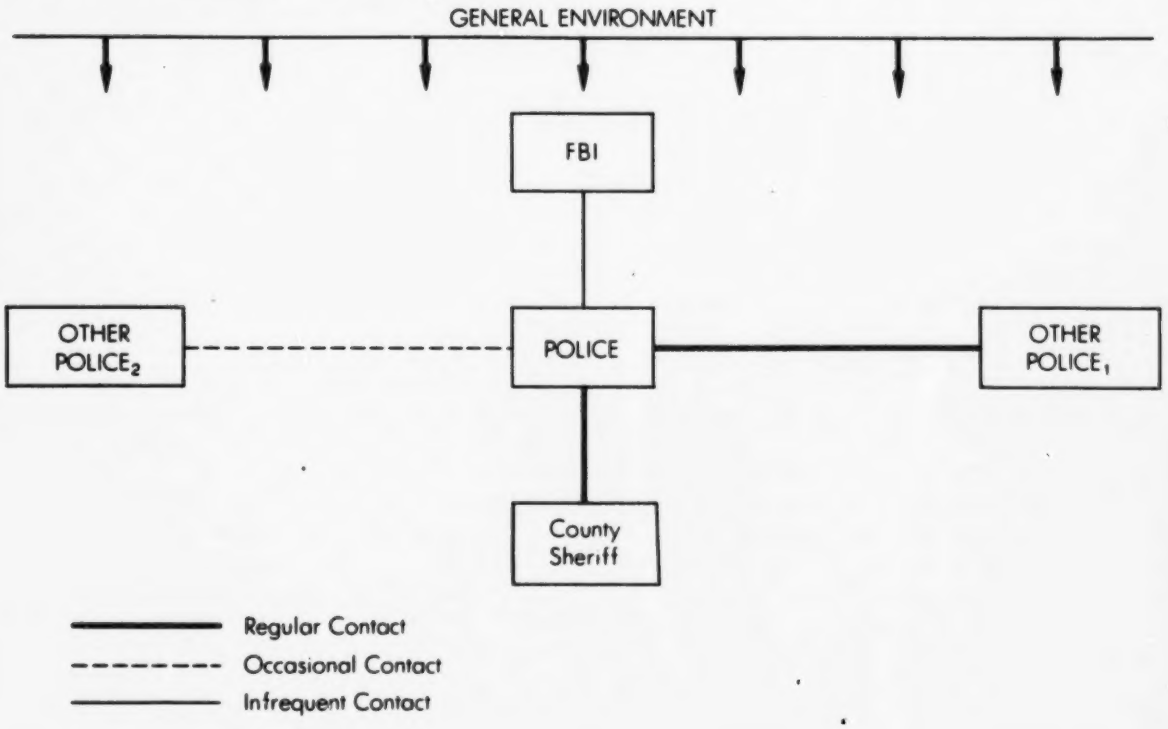
Figure 4. The organization-set and patterns of conflict-cooperation



Source: Richard H. Hall, **Organizations: Structure and Process**, 2nd ed., © 1977, p. 325. Reprinted by permission of Prentice-Hall, Inc., Englewood Cliffs, N.J.

BEST DOCUMENT AVAILABLE

Figure 5. Another type of organization-set



Source: Richard H. Hall, **Organizations: Structure and Process**, 2nd ed., © 1977, p. 326. Reprinted by permission of Prentice-Hall, Inc., Englewood Cliffs, N.J.

the degree of formalization of the relationship, and figure 4 indicates whether it is cooperative or conflictual. These figures include only a few variables and a few members of the organization-set. The complexity of the relationships is indicated by the fact that frequent interactions do not necessarily mean highly formalized or cooperative relations. In addition, it can be seen in figure 4 that the organizations cooperate in some relationships but conflict in others. Although not illustrated in figure 4, it should be noted that conflict and cooperation can exist in the same relationship between two organizations.

Another meaning implicit in the idea of the organization-set is indicated in figure 5, where the major linkages for the police are seen to be with other law-enforcement agencies. While these relationships are based on contacts in regard to law enforcement problems, they are also a major basis by which the focal police department determines how well it is doing. Organizations use other organizations of the same type both for comparison purposes and as a source of new ideas.

The analysis of interorganizational relationships is complex. Not only does an organization like the police have relationships with the sets of organizations depicted in figures 2 through 5 but they also have multiple other sets of relationships. Each

BEST DOCUMENT AVAILABLE

organization must purchase goods and services. Many of these organizations have concerns other than problem youths. The welfare department, for example, also is involved in financial assistance programs with linkages to Federal, State, and local organizations as well as to citizen groups.

There is yet another form of interorganizational relationship. This is the joint venture (Pfeffer and Nowak, 1976). This form entails the creation of a new organizational entity by organizations joining in a partnership. The joint venture is a means by which illegal mergers can be avoided, but it permits joint capital investment on the part of the organizations involved. Pfeffer and Nowak note that joint ventures may occur in profit and nonprofit sectors. Among profit-seeking organizations, oil and gas exploration efforts are a common form of joint venture as the participating organizations which have competitive and symbiotic relationships among themselves, seek to reduce environmental uncertainty, and reduce the risks for each participant. Joint ventures among nonprofit organizations are exemplified by alliances formed among private colleges or by consortia of general hospitals. These alliances are a means by which members can achieve competitive advantages over independent colleges and hospitals.

The joint venture is a good place to begin to analyze the issue of **level of analysis.** In the case of the joint venture, one could focus attention on the newly created entity **or** the participating organizations **or** both. This is the case of all forms of interorganizational interaction. In the case of the dyad, the focus of interest can be on the organizations involved, the relationship itself, or on the environment in which the dyadic relationship is based. Schmidt and Kochan (1977), for example, focused on the motivations of the organizations to participate in interorganizational relationships. Hall et al. (1977) focused on the quality of relationships among the organizations that they studied. One could also focus on the individuals involved, such as boundary personnel (c.f., Aldrich and Herker, 1977).

When the analysis is directed to sets or networks, more complexity is introduced. The focus can be on the set or network, a focal organization within the constellation, other organizations, the relationships themselves, or the environment in which this all is occuring. Provan et al. (1980), for example, examined the linkages with environmental elements that modify power relationships within an organization-set. Klonglan et al. (1976) studied the relationship between organizational characteristics and interorganizational relationships at different levels of government, such as the county or State levels. The focus here is on the manner in which organizational characteristics are related to interorganizational patterns. Turning the analysis in another direction, Metcalf (1976) found that interorganizational relationships serve organizations as they adapt for their own needs. Interorganizational relationships provide a means of adapting to, rather than merely responding to, environmental pressures. Interorganizational analysis is thus a complex and potentially confusing enterprise, since various studies have had different foci, with less clarity on the level of analysis than would be desirable.

A major difficulty in interorganizational analyses is the ordering among the units of investigation. Using a simplified set of distinctions among the environment, the organizations involved, and the qualities of the relationships, the following alternatives can be identified:

ENVIRONMENT → ORGANIZATIONS → RELATIONSHIPS

ORGANIZATIONS → RELATIONSHIPS → ENVIRONMENT

RELATIONSHIPS → ORGANIZATIONS → ENVIRONMENT

ORGANIZATIONS → ENVIRONMENTS → RELATIONSHIPS

ENVIRONMENT → RELATIONSHIPS → ORGANIZATIONS

RELATIONSHIPS → ENVIRONMENT → ORGANIZATIONS

Each alternative represents a possible assumption in regard to causal ordering, with the situation made more complicated by the possiblity of feedback loops for each alternative. Unfortunately, we do not have the answer in regard to the optimal ordering. The reason for this is that each component is interactive with the others. We probably have an extended example of the "chicken versus egg" argument here, with causal priority difficult to establish and probably not worth the effort, since each component does affect and is affected by the others. The conceptual framework presented in the next chapter attempts to introduce order to this situation, but the framework is primarily heuristic.

Analyses of interorganizational relationships have overwhelmingly been oriented to the delivery of human services, such as health care, employment services, mental health agencies, youth-serving organizations, welfare agencies, and the like. The reason for this is the belief that interorganizational coordination leads to improved service delivery and lower costs (Rein, 1970; Warren, 1973; Warren et al., 1974). Federal and State research support and programs reflected this belief and researchers in the area responded to these emphases (Morrissey and Jones, 1977). This has led to an underemphasis on interorganizational interactions in the private sector. Reve and Stern (1979) note that interorganizational analyses have missed marketing interactions in distribution networks, with their use of power and pressures of conflict. In a similar manner, labor-management relationships have not been analyzed from the perspective of interorganizational relationships.

Hage (1980) has considered interorganizational relationships in the private sector. He notes that joint ventures are an important interorganizational form here. Also important are interlocking boards of directors, although as Hage (1980:459) notes, it is unclear exactly how much power such boards actually have. Other forms of interactions include trade associations; coalitions for purposes of actions in regard to the Government, such as lobbying, joint research efforts; and the publication of trade journals. Until there are more analyses in the private as well as public sectors, however, knowledge about the full range of interorganizational relationships and the relative merits of these alternative orderings will be incomplete.

Measurement Considerations in Interorganizational Research

When attention shifts from what theorists say about interorganizational relationships to the ways people conduct this research, different issues and problems emerge. The multiplicity of methods of data collection, analysis, and interpretation, combined with the conceptual problems noted above, give the appearance of

methodological anarchy rather than a well-ordered research tradition (Rieker et al., 1976). While there has been some convergence in recent years with regard to core concepts and methods of procedure in this field, a number of methodological problems remain to be adequately resolved. We encountered many of these issues in compiling the measures included in this sourcebook. As an orientation to the measurement profiles presented in the subsequent chapters, we will now review several of the methodological issues that need to be considered in their use and refinement.

Quantification or measurement of observations is one of the prerequisites of empirical research. At a fundamental level, measurement in the interorganizational research field is no different from other fields of social science research. It will be useful, then, to review the basic logic of this process before considering its applications in interorganizational analysis. The following excerpts from two recent research methods texts present a succinct overview of the measurement process:

> Measurement consists of identifying the values which may be assumed by some variable, and representing these values by some numerical notation. The numerical notation is systematically and consistently assigned; that is, it is assigned according to some set of rules. Or, as Galtung has put it, 'Measurement is the mapping of the values on a set of numbers' (Galtung, 1967). Thus, for each and every value, there is an exclusive number. Thereby, given a variable **x**, the numerals 1, 2, 3, and 4 may represent the variable as it assumes each of four conditions or values. Moreover, as similar phenomena are observed, each variable x_1, x_2, x_3... x_4 will have its values so identified that we can realize a count of the number of instances in which value 1, value 2, value 3, or value 4 obtain empirically. Thus, the numerically represented variables come to represent classes or categories...
>
> The numerals in measurement, therefore, and measurement itself constitute summary designations of the state or value of some phenomena. But more than that, measurement permits the systematic identification of similarities and differences among phenomena, the number or quantity of these phenomena, and changes in these phenomena. Provided the assignment of numerical values is operationally definable, reproducible, and valid, then we are measuring phenomena. Measurement must be operationally definable; that is, we must specify the conditions of measurement and the operations performed under these conditions -- the what, when, where, and how, such that the phenomena are measured. Thus measurement does not consist of the arbitrary or idiosyncratic assignment of numerical values so that one might realize the appearance of quantification. Measurement is not achieved if a researcher simply assigns numerical values on the basis of his preconceptions... (Forcese and Richer, 1973:54-55).

> What constitutes a good measure? There are two basic criteria. First, the measure must reflect accurately the actual social activity it purports to measure....The observations made by a researcher are not actual social activities but simply the results of measurement. Thus, it is crucial that these measured responses reflect actual social activities as accurately as possible. The extent to which they do is called their **validity.** For measures of some social activities and characteristics (sex; amount of education; purchasing behaviors...), validity can be easily verified. The validity of measures of others (voting behavior, income, racial prejudice) is more difficult to determine, either because the information is considered private by many people or because the activities are psychological in nature and present problems in social measurement. Nevertheless, the researcher should make certain that the measurement used is the best one possible for gauging actual social activities.
>
> The second major criterion for a good measure is the extent to which it generates similar responses every time it is used in various situations. This is called its **reliability**....A reliable measure produces consistent results for different researchers (Lin, 1976:167-168).

A number of contextual issues surface in the translation of these general precepts to the study of interorganizational relationships. While there are several useful treatises on research design considerations in organizational research (e.g., Adams and Preiss, 1960; Scott, 1965; Barton, 1961; Price, 1972; Haas and Drabek, 1973), there are few counterpart guides for interorganizational studies. Recent works by Aldrich (1974, 1975), Van de Ven and Ferry (1980), and Whetten (1981) have begun to fill this void, but to a great extent many of the measurement conventions in this field are scattered in a number of journals and research monographs. Here we will review several issues related to the measurement of interorganizational relationships. We will first consider the methodological implications of the choice of a unit of analysis and then proceed to a variety of issues concerning the sources and methods of data collection, and the validity and reliability of the resultant measures. Our observations are intended to serve as a general orientation to this field rather than a primer on research methods. Whenever appropriate, references will be made to readily available sources that discuss the issues in more detail.

Units of analysis

This topic has already been discussed as part of the Conceptualization and Measurement of Interorganizational Relationships. There it was noted that interorganizational research can be carried out on three distinct units of analysis: dyads, sets, or networks. The component elements in each unit can be organizational subunits, total organizations, or some combination of the two. From a methodological perspective, the choice of a unit of analysis has several implications related to data collection, data analysis, and generalization of findings.

First, data collection procedures are different for each unit. In dyadic analyses, information is gathered on each pair-wise relationship within a group of agencies of

interest. For organization-set relations, information is gathered on the relationships between a focal agency and each of its set members (typically a smaller number than in dyadic analyses). In network analyses, there is no single focal agency, and information is obtained about the relationships between every pair of organizations in order to develop a configuration of the network as a totality. There is a hierarchy of inclusiveness between these three units of analysis. Networks are the most inclusive form in that they contain information about sets and individual dyads; sets, in turn, contain information about the dyadic relations of the focal agency, while the dyad is the building block or elemental unit of interorganizational analysis. Information gathered at each higher level can thus be analyzed at that level or disaggregated and analyzed at a lower level. The costs and complexity of the data collection process, however, increase as one moves from dyad, to set, to network.

With regard to data analyses, dyad and set relations are typically analyzed by correlation and regression procedures. One or another aspect of these relationships is selected as a dependent variable and an effort is made to explain its variance in terms of a multiple regression equation composed of other structural, process, or environmental characteristics of the relationship or of the component organizations. The work of Hall et al. (1977) illustrates this approach. The units of analysis in this study are the dyadic relations (N=470) between 76 agencies serving problem youth in 12 cities. One segment of the analysis focused on interagency coordination as the dependent variable. The regression analysis indicated that coordinated relationships were likely to occur when organizational respondents had positive assessments toward each other, balanced power relations, frequent contacts, and low levels of conflict (Multiple r = .87).

Network relations typically involve a more complex data analysis process. Since the data initially collected in such studies represent all possible pair-wise relations among network members, the first step in data analysis is to develop a simultaneous configuration of these relations to represent the network as a whole. This is usually accomplished by the use of computer-based clustering or multidimensional scaling procedures (Breiger et al., 1975; Burt, 1977b; Burt, 1980). Once the data have been transformed into network-level indices, the analysis can proceed with the use of regression procedures as above. The work of Galaskiewicz (1979) illustrates one variant of this approach. The units of analysis in this study were 73 organizations in a medium-sized midwestern city, but the variable measured was centrality in a network as a whole. One segment of the analysis was to explain organizational centrality with a number of independent variables using standard regression analysis. A measure of centrality for each organization was derived from a smallest space analysis of the inflow and outflow of money among these 73 organizations. Expectedly, the findings revealed that organizations which were central to the money exchange network tended to be those with large amounts of financial resources, dependent upon the local community for their financial support, and engaged in economic activities (Multiple r = .65).

Finally, it should be noted that the unit of analysis establishes limits on the comparability and generalizability of the findings. The correlates of conflict at the dyadic level, for example, are likely to be quite different from its correlates at the network level (Warren et al., 1974). The common conceptual set for talking about relationships at each unit of analysis gives the semblance of comparability when in fact the concepts are measured quite differently. Although studies carried out on different units are all interorganizational in focus, they represent divergent approaches for

"seeing the same thing differently", as it were. Thus readers must be alert to the varying units of analysis when trying to compare two or more studies; cross-unit findings are not necessarily consistent nor cumulative.

Sources and types of data collection

Two types of data are commonly used in interorganizational studies: judgments of agency respondents or objective data from agency reports, public documents, or direct observation. The predominant strategy in contemporary interorganizational studies relies upon subjective indicators obtained from interviews or questionnaires. More than 90 percent of the measures presented in this sourcebook (32 of 35), for example, conform to this approach.

Debates about the relative merits of subjective versus objective indicators have a long history in social science research (Becker and Geer, 1957; Zelditch, 1962; Webb et al., 1966; Lazarsfeld and Menzel, 1969; Sieber, 1973). Organizational researchers often distinguish between subjective judgments and subjective reports of behavioral data. While both types of information are obtained from interview of questionnaires, the former reflects the personal opinions of the respondents, while the latter reflects more factual characteristics of the organization or its environment. While the use of both types of data in organizational research has been challenged (see Tausky, 1967 and Aiken and Hage, 1967), most researchers rely on such data to measure organizational and interorganizational phenomonena. When considered in combination with global or observational data, however, other complexities arise. Research conducted by Pennings (1973), for example, suggests that subjective and objective indicators of the "same" organizational properties (e.g., centralization of authority) do not correlate highly. In order to maximize the strengths of alternative types of data collection, others have suggested the use of multitrait-multimethod approaches (Campbell and Fiske, 1959; Althauser, 1975; Costner, 1969). Such strategies, however, have rarely been employed in interorganizational studies.

In general, each type and method of data collection has its advantages and disadvantages. As in other areas of social science research, interorganizational research findings can be greatly strengthened when data collected by different means can be shown to reinforce a particular conclusion (Haas and Drabek, 1973:332).

Number of observations

There are two interrelated issues regarding the number of observations in interorganizational research. The first relates to the number of respondents from each organization surveyed and the second involves the number of units (dyads, sets, or networks) on which the analysis is based.

Although there are a number of interorganizational studies in which a sample of organizational respondents is surveyed (e.g., Aiken and Hage, 1967; Hall et al., 1977), the typical approach is to use a single key informant from each organization. More than 60 percent of the measures included in this sourcebook (21 of 35), for example, are based on data collected from key informants. It is clearly much easier to design and conduct a study relying on key informant methods. However, the selection of respondents should be based on conceptual as well as logistical considerations. An agency director might be an appropriate respondent for budgetary and policy aspects of interorganizational transactions but a very poor respondent for information on client

flow or day-to-day transactions at the direct service level (see Whetten and Szwajkowski, 1978). Likewise, in large and very diversified organizations, no single respondent would be knowledgeable about the full range of the interorganizational transactions. In such circumstances, a multiple respondent sampling strategy would be more appropriate.

The second issue concerns the number of units included in a study. Similar to intraorganizational research wherein much of the early work was based on case studies of single organizations, the typical approach in the interorganizational field has been to study dyads, sets, or a network of interacting organizations in a single community. Increasingly, however, multisite studies are becoming more common. The issue here, of course, is that research designs based on large numbers of observations are better able to demonstrate strong and stable patterns of covariation (Price, 1968). Longitudinal designs with large samples, however, are the hallmark for establishing casual inferences in nonexperimental research. To date, there are very few exemplars of this approach in the interorganizational relations literature.

In practice, these two issues are intertwined. Multisite studies often constrain researchers to rely on a key informant data collection strategy (e.g., Whetten and Aldrich, 1979). Single site studies, in contrast, allow for a more intensive data collection process often involving a sampling of respondents in each organization (e.g., Aiken and Hage, 1968). These issues also help to account for the preponderance of dyadic analyses in the interorganizational research literature. Even with a small sample in a single community, a large number of dyadic relations can be analyzed. Consistent with the combinatorial rule for identifying dyadic relations (i.e., N(N-1)/2), a sample of 10 organizations yields a total of 45 distinct pair-wise relationships. Modest increases in the number of organizations surveyed lead to dramatic increases in the cases available for analysis. Thus a variety of multivariate procedures can be applied in the data analysis process. It is much more difficult to do organization-set and network level analyses which, by definition, require multiple sites in order to obtain a sufficiently large N for statistical analyses. Analytical problems also have contributed to the lag in network studies. Accessible procedures for analyzing large numbers of interaction matrices have only recently become available to interorganizational researchers (Brieger et al., 1975; Burt, 1977b, 1980).

Validity and reliability

As noted earlier, interviews and questionnaires are the primary data collection instruments employed in interorganizational studies. Questions are typically posed in a closed-ended format with Likert-type response categories (c.f. Lin, 1976:183-185). Of the 35 measures presented in this sourcebook, for example, 22 (63 percent) are based on this type of data. The methodological issues involved in the construction and use of such instruments in interorganizational studies are identical with those in other areas of social and behavioral research (Torgerson, 1958; Oppenheim, 1966).

Interorganizational researchers, however, only recently have turned their attention to the adequacy of measurement practices in this field. Much of the work published to date has relied on an extrapolation of concepts from intraorganizational research (Marrett, 1971) and the use of "face valid" or judgmental criteria in selecting questionnaire items or other indicants of these concepts. In addition, many of the measures are based on single rather than multiple items. Of the 35 measures presented in this sourcebook, 17 (49 percent) are based on single-item indicants -- a practice

which precludes the derivation of empirical estimates of the reliability and validity of the observations from the data generated in a single study (Blalock, 1970). Even in those situations in which multiple-item indices are employed, it is rare for investigators to report information on their measurement properties. In addition, many widely used measures tap only part of the referent concept.

One major exception to these practices is reflected in the work of Van de Ven and Ferry (1980). Following procedures developed in the psychological and sociological measurement literatures (see Carmines and Zeller, 1979; Zeller and Carmines, 1980), Van de Ven has used factor analytic procedures to assess the intrinsic and extrinsic validity of multi-item interorganization indices. In this approach, intrinsic validity refers to how well an index measures what it is intended to measure in a consistent way, while extrinsic validity refers to the practical usefulness of the index in addressing the basic research or applied problems with which it was intended to deal. Intrinsic validity subsumes the concepts of reliability and validity as used in classical test theory, and it is the type that is most relevant for this sourcebook. The validity estimates employed by Van de Ven and Ferry are based on measures of internal consistency reliability (Cronbach's alpha), discriminant validity (median correlations within an index with items in other indices), and criterion-related validity (correlations with parallel measures). Details of these procedures are presented in Van de Ven and Ferry (1980:75-87).

Van de Ven's work represents a model of the type of methodological evaluations that are required for the refinement of measurement practices in the interorganizational research field. A number of the measures contained in this sourcebook are derived from Van de Ven's work. The measurement profiles presented in the remaining chapters summarize the evidence in support of their validity and reliability.

Generalizability

There is one other aspect of validity that deserves mention. This is the issue of generalizability of findings or what experimentalists refer to as **external** validity (c.f., Riecken and Boruch, 1974). Most of the research on interorganizational relations has been carried out in social service arenas, with the exception of the materials on director interlocks. Thus the field has been based on a limited range of organizations (see Perrow, 1979:200-247). Whether or not the findings obtained to date apply to other types of organizations is problematic. Little is actually known about this issue. Aiken and Hage's work is among the few which have considered this topic but their data base is extemely limited. Hage (1980), however, has attempted to extrapolate from this data base to some general hypotheses regarding interorganizational relationships.

Even within the social service sector there are problems extrapolating from convenience samples of a few organizations in one or a small number of communities. There are important differences between health and welfare organizations (Hasenfeld and English, 1974) that have yet to be carefully sorted out in the interorganizational literature. Thus, the field of interorganizational relationships is one of great research potential. There is a general belief that these relationships are important, even though this has not yet been really demonstrated. The current state of the art in this field is advancing and the next decade holds promise for significant contributions both to organizational theory and to public policy.

III

LITERATURE REVIEW METHODS AND CONCEPTUAL FRAMEWORK

In compiling this sourcebook our goal was to produce an overview of the concepts and measures currently used in interorganizational research studies for program evaluators and researchers in the mental health field. In a schematic fashion we wanted to convey some of the core themes, analytical tools, and measurement strategies that can be applied to the assessment of multiorganizational service delivery systems.

Relatively little of the empirical research in this field, however, has been carried out in mental health settings. Consequently much of the source literature consulted in the preparation of this volume has been drawn from the broader health and social welfare scene. While this limits our range of illustrative mental health applications, it does not undermine the relevance of the interorganizational perspective to the mental health field. The structure and dynamics of any interorganizational system can be described and analyzed by a common set of concepts. In other words, one does not need a special set of concepts to talk about relationships between mental health agencies, another set for school systems, general hospitals, and so forth. Although outcomes or performance criteria may be specific to each of these settings, measures of these criteria fall outside the scope of this sourcebook.

In this chapter, we discuss the procedures employed in our review of the literature, the framework used to organize the concepts and measures, and the format for the measurement profiles contained in the remainder of this sourcebook.

Methods of Procedure

As noted in chapter I, the concepts and measures presented in this sourcebook are based on a systematic review of the interorganizational research literature published in the United States between 1970 and 1981. We supplemented these sources with frequently cited studies from the pre-1970 era, and by obtaining copies of unpublished reports and working papers from several of the leading researchers in this field. Few literature reviews can claim to be exhaustive and the present effort is no exception. However, given our search procedures and collective involvement in the field of organizational studies for the past 20 years, we are confident that the major and most important research studies in this field were considered in the preparation of this sourcebook.

The basic criterion employed in selecting relevant literature was methodological. That is, we selected only those research reports which presented quantitative data dealing with some aspect of interorganizational relations. Our work was informed by the theoretical literature in this field, but our focus was on empirical measures. Initially we cast a rather large net in an effort to capture as many measures as possible.

Abbreviated profiles were developed for each measure used in each research report. This process resulted in the identification of more than 125 measures. Many of these were redundant versions of the same measure or exceedingly study specific. The final set of 35 measures profiled in this sourcebook was culled from this initial list. Our selection process was ultimately based on our best professional judgments of the adequacy of each measure. We had hoped that enough validity and reliability estimates would be available to aid the selection process. However, it soon became clear that this would not be possible. With a few notable exceptions, most of these measures are based on "face valid" or judgmental criteria. Readers will note that some of the measures in this sourcebook are quite weak and that interoganizational measurement, in general, needs much more work. Nevertheless, we feel that the measures presented are representative of the current state of the art in this field.

Our work was selective in another way as well. We made no effort to present an exhaustive array of every way a given concept has been measured. Rather, we selected what appeared to us as the most representative way a concept has been measured. In some instances, we have included two measures of the same concept that represent alternative approaches (e.g., a single global item vs. a multi-item index) or distinct dimensions of the same general concepts. For quality of conflict resolution, for example, we present a global measure from Hall et al. (1977) and a multi-item index from Van de Ven and Ferry (1980). Similiarly, we provide two measures of interorganizational power, one reflecting the degree of interagency influence (Hall et al., 1977) and the other an agency's network centrality (Galaskiewicz, 1979).

Despite the scope of our literature review, the final set of 35 measures is derived from a total of only 15 research reports. Ten of the measures are from Van de Ven and Ferry (1980), eight from Hall et al. (1977), and six from Whetten and his associates (Whetten and Aldrich, 1979; Boje and Whetten, 1981; Whetten and Szwajkowski, 1978). Thus 24 of the 35 measures come from 5 research reports. The other 11 measures are based on 10 additional studies involving a total of 18 investigators: Smith et al. (1979); Galaskiewicz and Shatin (1981); Mulford (1980); Schmidt and Kochan (1977); Klonglan et al. (1976); Aiken and Hage (1968); Zober (1979); Provan et al. (1980); and Maas (1979). As a group, the authors of these 15 studies represent many of the leading investigators in the field of interorganizational research and their studies have addressed many of the measurement issues highlighted in this report.

Conceptual Framework

The strategy we employed in our review of the literature was inductive rather than deductive. That is, we started with a survey of the research literature rather than an explicit conceptual framework. At the outset, we wanted to avoid the potential blinders that are often associated with abstract conceptual systems. The interorganizational literature is characterized by a multiplicity of analytical frameworks such as political-economy (Benson, 1975), social exchange (Levine and White, 1961; Cook, 1977), resource-dependency (Pfeffer and Salancik, 1978), and population-ecology (Hannan and Freeman, 1977). To a large extent, however, these frameworks have yet to be fully explicated and specified. Thus we wanted to avoid the exercise of looking for ways in which they **might** be measured in future research. Rather, our concern was to identify measures that have already been employed in actual research studies so that potential users could benefit from the experience of other investigators.

Once the array of measures included in this sourcebook was compiled, we turned to the issue of how to present them in a coherent and parsimonious way. We considered listing them in alphabetical order without any superimposed framework similiar to the format Price (1972) used in his handbook of intraorganizational measures. We soon rejected this format because we felt that it would be disorienting for readers who were unfamiliar with the broader interorganizational literature. In our view, the 35 measures were more than just a miscellany of unrelated concepts; they formed a core set of topics to be included in an interorganizational assessment of a mental health service delivery system. We eventually developed our conceptual framework through a two-step aggregation process. The first step involved grouping cognate measures under common conceptual headings such as **environment, power, conflict,** and so forth. This collapsed the 35 measures into 25 distinct groups. The second step involved clustering these 25 groups of concepts/measures into seven major categories.

Initially, we started with four categories. These four were the **environment-structure-process-outcome** distinctions widely used in the intraorganizational literature (e.g., Hall, 1977; Zey-Ferrell, 1979). We had little difficulty in assigning measures to the environment and outcome categories. The referents of these terms were relatively clear-cut, and there were only two measures that fit each category. We had much more of a problem working with the structure-process distinction. We found that many of the concepts could not be classified as **structure** or **process** in a mutually exclusive and satisfactory way. If a study focused on the mechanisms of interorganizational conflict, for example, it could be considered a structual analysis. Alternatively, if attention was placed on conflict strategies and sequences of interaction employed by protagonist organizations over time, it could easily be viewed as a process analysis. Depending upon one's time frame and focus, then, conflict can be viewed either as a structure or a process.

In the interorganizational analysis field, however, much of the published work is based on cross-sectional as opposed to longitudinal research designs. Thus time frame considerations cannot be consistently used to differentiate between interorganizational structures and processes. Indeed, the task is made even more confusing by the tendency of some investigators to measure their concepts at one point in time while discussing their findings as if they reflected dynamic relationships. In addition, we found that a number of the measures did not fit under any one of these four categories. The residual group consisted of several measures related to the nature of the linkages, resource exchanges, or types of interdependence among organizations; the reasons relationships were initiated or the manner in which relationships were carried out; measures related to interorganizational domains, geographical proximity, size, and a few other factors. Separate categories were created for each of these residual clusters.

As a result, our conceptual framework was expanded from four to seven categories, as follows:

1. Environmental Context: Characteristics of the socioecological environment surrounding the focal unit of study, whether a dyad or pairwise relationship, an organization-set, or an interorganizational network, such as its stability, diversity, complexity, and uncertainty;
2. Situational Factors: Characteristics of the setting in which interorganizational relations develop that present opportunities as well as constraints on the nature and form of the linkages established, such as the

extent of mutual awareness, domain consensus, geographical proximity, and number of organizations available for linkage;

3. Bases of Interaction: Characteristics of the reasons for forming interorganizational linkages such as mandates, organizational self-interest, and formal agreements;
4. Resource Flows: Characteristics of the content of the relationships and the nature of the resources shared by interacting organizations such as the type and intensity of resource flows, joint programs, and interlocking boards of directors;
5. Transaction Structures: Characteristics of the mechanisms used to structure the linkages and flow of resources between organizations such as the degree of formalization and standardization;
6. Transaction Processes: Characteristics of the quantity and quality of the resource transactions between organizations such as their mutual importance and frequency as well as their conflictual, cooperative, and coordinative dimensions;
7. Outcomes: Characteristics of the impact of interorganizational relationships such as their effectiveness in accomplishing the mutual interests and goals of the interacting organizations.

This configuration represents a heuristic rather than a definitive framework. It covers the basic categories of interorganizational analysis but the individual concepts and measures could be grouped differently depending upon one's theoretical persuasion and the focus of interest in a particular study. We have listed the major categories in a logical, developmental sequence that reflects the clusters of variables that an investigator would consider in undertaking an interorganizational assessment of a local service delivery system. We do not imply any fixed, unilinear, causal ordering by this configuration. As noted in chapter II, there are a variety of causal sequences that can be postulated for the key variables in this field, but present research findings do not allow for a single best ordering. Further research of a longitudinal nature is needed so that different causal sequences can be hypothesized and empirically evaluated.

The 35 measures considered in this sourcebook are not evenly distributed across these 7 categories: **environmental context** contains 2 measures; **situational factors, bases of interaction,** and **resource flows** contain 6 measures each; **transaction structures** contains 2 measures; **transaction processes** contains 11 measures; and **outcomes** contains 2 measures. A separate chapter is devoted to each of these seven categories. The discussion in each chapter provides a conceptual overview as well as profiles of the associated measures. An index of concepts and measures is presented in the appendix as a reference guide for the location of individual items.

Measurement Profiles

The measurement profiles presented in each of the subsequent chapters follow a common format which is adapted from Price (1972). Each profile consists of six categories outlined as follows:

1. Study Description: This segment provides a brief overview of the study from which the measure was obtained, including its major purpose, types and number of organizations surveyed, and unit of analysis (dyad, set, or network).

2. Concept: The name of the concept measured by the authors is identified.
3. Definition: If an explicit definition is provided in the study report, it is always stated; otherwise implicit referents of the concept are noted.
4. Data Collection: This section provides a brief overview of the data collection methods used in the study (e.g., interviews, questionnaires, record abstracts), the number of agency respondents surveyed, the format of the data items or questions used to construct the measure, and the numeric scores for the response categories.
5. Computation: This section presents the steps or calculations involved in aggregating data across questions, respondents, and/or organizations. In most cases, the description follows the exact procedures stated in the source document so that users will not have to consult these sources for further guidelines.
6. Comments: This section provides a number of observations on the methodological adequacy of the measure (including validity and reliability estimates where available), its relationship to other measures presented in this sourcebook, and other caveats that should be considered before it is used in future research.

We have organized this sourcebook as a series of self-contained profiles on the assumption that it will be used selectively as a reference guide. While this format results in repetition of study descriptions, it avoids the necessity of consulting different parts of the book in order to obtain a comprehensive understanding of each measure. Those readers who are reviewing this sourcebook for the first time might find this distracting; but we believe that, on repeated use, the self-contained format will prove to be quite valuable. To mitigate this problem somewhat, we have made one minor adjustment in the measurement profiles. In those instances where multiple measures in the same major category are from a single research report, we only present a full study description for the first measure. The reader is referred back to this description at the point each subsequent measure is presented. To retain the self-contained format, however, we repeat the full study description the first time it occurs in each new category. This problem occurs most frequently for the 10 measures derived from Van de Ven and Ferry (1980) which fall into 5 of the 6 categories composing our overall conceptual framework.

IV

ENVIRONMENTAL CONTEXT

Consistent with the overall conceptual framework developed in the last chapter, we will first consider the role of environmental influences in interorganizational relationships. Most of the early studies in this field treated the environment broadly as a set of constraining phenomena external to the organization (Van de Ven and Ferry, 1980). In this tradition a variety of technological, legal, political, economic, demographic, ecological, and cultural conditions which influence organizational behavior have been identified (Evan, 1966; Hall, 1977). More recently, researchers have examined a number of dimensional properties of the environment (such as its relative stability, homogeneity, complexity, and uncertainty) and the ways in which these dimensions create opportunities as well as constraints on interorganizational relationships (Emery and Trist, 1965; Aldrich, 1972a). In this chapter, we will review the ways in which the environment is conceptualized in interorganizational research and present composite measures for two of its core dimensions: intensity and turbulence.

Conceptualization

The specification of environmental influences depends upon the unit of analysis chosen for study. In general, the environment is viewed as that which is external to the unit of interest. If the unit of interest is an organizational department, for example, the environment encompasses not only phenomena external to the organization but also individuals and groups within the organization who are not members of the department (Van de Ven and Ferry, 1980). When the entire organization is the unit of analysis, the environment will consist of those groups, other organizations, and sociocultural influences external to its boundaries. At the interorganizational level of analysis, the basic unit of interest (dyads, sets, or networks) transcends individual organizations. The unit of analysis consists of interactions among multiple organizations, and the environment refers to those forces or interests external to the focal system (Rieker et al., 1976; Morrissey and Jones, 1977).

Aldrich (1979) identified capacity (richness-leanness), homogeneity-heterogeneity, stability-instability, concentration-dispersion, consensus-dissensus, and turbulence as the critical dimensions of the environment which can influence organizational and interorganizational relationships. Environmental **capacity**, in Aldrich's terms, refers to the relative level of resources available to an organization. There are contradictory interpretations of the impact of environmental capacity. Aiken and Hage (1968) report that a shortage of resources promotes cooperation among organizations. In contrast, Galaskiewicz and Shatin (1981) report that in leaner neighborhood environments (e.g., where there are fewer poor people to serve) social service organizations tend to act defensively toward one another and form interorganizational linkages on particularistic criteria. In the same view, Turk (1973) found that the density of interorganizational relationships was greater in cities where municipal governments spent more money. The argument is that a rich versus a lean environment provides organizations with an

abundance of resources that permit it to engage in interorganizational relationships which it might not otherwise initiate.

Environmental **complexity** is a second dimension. As the number of activities in the environment increases, the environment becomes more complex for each organization (Jurkovich, 1974; Broskowski, 1980). Aldrich (1979) argues that organizations deal with complexity by specializing in a limited range of activities. This, in turn, leads to a "loosely coupled system" (Weick, 1976) in which links among organizations are necessary for organizational survival. Aldrich's emphasis on survival suggests that organizations are not tightly bound to each other, but only to the extent that they need each other for survival. This is a limited view of the importance of the environment since other characteristics such as legal mandates may lead to tighter binding than would be expected simply from increased complexity.

Homogeneity-heterogeneity refers to the degree of similarity or differentiation among the elements of the population dealt with, including other organizations, individuals, and any social forces affecting resources. Aldrich (1979) suggests that a heterogeneous environment leads to a proliferation of organizational programs which contributes to a higher level of interorganizational interaction. Environmental complexity and the degree of homogeneity-heterogeneity may vary independently of each other, although complex environments are often also heterogeneous. The **stability-instability** factor also appears to have mixed consequences. Galaskiewicz and Shatin (1981) report that a stable clientele provides certainty for organizations and thus interpersonal ties tended to be based on leaders' status group memberships. Aldrich (1972a) suggests that stability may permit the development of formalized or routinized relationships. The **concentration-dispersion** and **consensus-dissensus** dimensions appear to be more straightforward. Aldrich (1972a), for example, reports that concentration and consensus contribute to interagency interactions.

Quite obviously, more research is needed to determine the patterns of causal relationships between the environment, interorganizational relationships, and the type of organizations involved. Such research is difficult to carry out, since environmental qualities should be measured over time, as should interorganizational relationships. Despite these problems, a full understanding of interorganizational relationships is impossible without an adequate conceptualization and eventual measurement of these general environmental properties.

Measurement

a. Smith, Shortell, and Saxberg (1979)

Study description: This study empirically tested the contingency theory of organizations on a sample of 30 proprietary nursing homes in the state of Washington. This theory suggests that the structural characteristics of organizations, as well as the decisions made by administrators, are affected by the nature of the environment. The authors present a rationale for this view and argue that nursing homes are likely to be influenced particularly by the problems which interest groups, publics, and others create for agency administrators.

Concept: ENVIRONMENTAL INTENSITY

Definition: Intensity was defined in terms of the predictability, stability, diversity, and complexity of the organizations' task environment.

Data collection: The data were collected by means of interviews and self-administered questionnaires. The administrator and nursing director of each home responded to the section of the questionnaire concerning the environment so that the number of respondents totaled 60.

In addition, an advisory board of nursing home administrators was formed by the investigators and used to determine which groups and publics in the environment would potentially bear on the operation of the nursing home facilities. The advisory board identified 44 environmental factors which were likely to be important for the operation of these homes. The 60 respondents were then asked to assess the predictability, stability, diversity, and complexity associated with each of these 44 factors. The respondents were asked four questions as follows:

1. "Please indicate which of the following factors exert influence on the operation of your nursing home."

____ Medicare
____ Medicaid
____ Hospitals
____ Certificate of Need
____ Malpractice Suits
____ Pharmacist Consultants
____ Pharmacy
____ Local Medical Society
____ Food Suppliers
____ Equipment Suppliers
____ Religious Organizations
____ Labor Unions
____ Corporate Headquarters
____ Nonprofit Nursing Home
____ American Medical Association
____ Private Insurance Carriers
____ Proprietary Nursing Homes
____ Utilization Review
____ American Nursing Association
____ Federal Legislation
____ Consumer Advocate Groups
____ Comprehensive Health Planning Agencies
____ Local Financial Institution
____ Joint Commission for Accreditation of Hospitals
____ Attending Physician
____ Voluntary Health Agencies
____ Voluntary Welfare Agencies
____ Department of Social Services
____ Washington State Nursing Home Licensure Board
____ OSHA or WISHA
____ DHEW (now DHHS) Regulations
____ Washington State Health Association
____ American Health Association
____ Washington Hospital Association
____ Local Nurse's Society
____ Washington State Department of Labor
____ Manpower Availability (R.N., L.P.N.)
____ Availability of Consultants
____ Wage and Salary Division Department of Labor
____ Community Service Groups (e.g., Rotary)
____ News Media
____ Fire Marshall
____ Others (Specify) _____
_____

2. "Please indicate the extent to which each of the above factors is predictable."

Factor is predictable to a very little extent	Factor is predictable to a little extent	Factor is predictable to some extent	Factor is predictable to a great extent	Factor is predictable to a very great extent
1	2	3	4	5

BEST DOCUMENT AVAILABLE

3. "Please indicate the extent to which each of the above factors changes."

Factor changes to a very little extent	Factor changes to a little extent	Factor changes to some extent	Factor changes to a great extent	Factor changes to a very great extent
1	2	3	4	5

4. "Consider each factor in the five paired comparisons and indicate the extent to which each factor differs from the other."

These factors are not different	These factors differ somewhat	These factors differ quite a bit	These factors differ a great deal	These factors differ a very great deal
1	2	3	4	5

Computation: The degree of environmental complexity was assessed from responses to question 1 (influence). A score was assigned by simply counting the number of factors which were indicated by respondents as exerting influence on the operation of their nursing home. The greater the number of factors mentioned, the more complex a nursing home's environment was considered to be. With 2 respondents per home, the value of this measure could range from 0 to 88 for each organization.

For the predictability and stability measures, respondents assigned scores of 1 to 5 from the above scales to each of the 44 factors. The scores on each factor were then summed for each organization. The scoring for question 2 (predictability) is such that the lower the score for the organization the less predictable the organization's environment while the higher the score the more predictable the environment. The scoring for question 3 (stability) is in the reverse direction such that the lower the score the more stable the environment while the higher the score the less stable. For each organization, the range of possible scores on each measure was 88 to 440.

Responses to question 4 (diversity) were scored through a series of paired factor comparisons. The advisory board selected 5 comparisons from the list of 44 items which it felt represented the intent of the diversity dimension. The exact comparisons, however, are not presented in the article. For each organization, the range of possible scores on these comparisons was 5 to 25. The higher the score, the greater the environmental diversity.

After adjusting for direction, these four scores were summed so that each organization received a composite score to index the overall intensity of its environment.

Comments: This measure is based on the intensity of the environment only as it is perceived by key administrators. While the 44 environmental influences are relatively unique to the sample of organizations studied, appropriate modifications could be made for its use in other settings. To do so, however, would require extensive knowledge of the organizations' goals and the various groups which might affect them. A related consideration is that the approach used in this study is rather cumbersome. It requires

the formation of a panel of experts who are not only very familiar with the organizations to be studied but are also willing to provide the needed information. It is often both difficult and time consuming to recruit such a panel. No information concerning the validity or reliability of the measure is presented.

b. Galaskiewicz and Shatin (1981)

Study description: This study investigated the factors associated with the establishment of interorganizational networks among 181 neighborhood organizations in 4 areas of Chicago. The data were gathered in 1973. The authors argue that the formation of cooperative relationships can be based as much on particularistic criteria (e.g., personal contacts and educational, ethnic, or religious background of organizational leaders), as on strict cost-benefit calculations in terms of resource procurement. Furthermore, leadership effects should be more evident under conditions of environmental turbulence and uncertainty. Here, in an effort to ensure the dependability and trustworthiness of their exchange partners, leaders will target their networking efforts at those whom they know personally or those whom they believe share their loyalities.

Concept: ENVIRONMENTAL TURBULENCE

Definition: Environmental turbulence is defined as the extent to which the clientele available to service organizations are stable or unstable, homogeneous or heterogeneous, and plentiful or scarce.

Data collection: The data used to measure the degree of environmental turbulence in four Chicago neighborhoods were obtained from U.S. Census reports for 1960 and 1970. Information was abstracted on the ethnic and income groups which resided in each neighborhood, the extent to which occupational and ethnic groups were proportionately represented, the median family income, and percent of families with incomes under $3000.

Computation: A neighborhood was determined to be stable when there was little or no change in the ethnic and income groups which resided in the neighborhood between 1960 and 1970. The greater the change in the proportion of a neighborhood's population having a particular ethnic and income status, the more unstable the neighborhood was considered to be.

The homogeneity or heterogeneity of a neighborhood's residents relative to city-wide demographics was measured by examining the extent to which occupational and ethnic groups were proportionately represented in the area. **Indices of dissimilarity** for 11 occupational and 18 ethnic-racial groups were computed for each neighborhood. Occupational and ethnic or racial indices of dissimilarity were based on differences in percentage distributions comparing each neighborhood with city-wide statistics (Martin and Gray, 1971). The smaller the index for a neighborhood, the more similar it was to the city-wide distribution and, thus, the more heterogeneous the neighborhood was considered to be.

The median family income and percent of families having incomes under $3000 was used to determine the desirability and/or availability of clients in each neighborhood. The authors call this the richness-leanness of the neighborhood environment. Using these criteria, the authors argue that the poorer the neighborhood,

the more attractive it is to agencies since its population is more dependent upon the services provided by local agencies.

Each neighborhood was classified according to its overall degree of environmental turbulence as indexed by these measures. The authors then made a leap of faith and inferred that the more unstable, heterogeneous, and scarce the client population in each neighborhood, the more turbulent the environment in that neighborhood.

Comments: These measures depend on demographic data rather than respondent perceptions. Thus, they represent objective as opposed to subjective measures of the environments of these service agencies. The assumption is that these data accurately reflect characteristics of the client population and that such characteristics are important sources of turbulence for service agencies. Since these measures are based exclusively on client characteristics, they do not address other sources of environmental uncertainty which might affect interorganizational relations independently of client characteristics. No information concerning the validity or reliability of the measures is provided.

In addition, neighborhood heterogeneity as measured in this study is more aptly described as dissimilarity or atypicality relative to the city-wide distributions of occupations and ethnicity/race. A more direct measure of heterogeneity might be constructed from the variability **within** each neighborhood. In this way, neighborhoods containing one or a few occupational and ethnic groups would be rated as less heterogeneous than those with many diverse groups. This latter measure would correspond more closely to the denotative meaning of heterogeneity.

V

SITUATIONAL FACTORS

In addition to environmental properties, many investigators have analyzed the specific situations in which interorganizational relationships take place. These situational factors include awareness, domain consensus, domain similarity, geographical proximity, localized dependency, and size. As a group, these situational factors are often viewed as preconditions for interorganizational relationships.

Agency Awareness

Conceptualization

It has long been recognized that organizations operate in a **field** of other organizations (Warren, 1967). Less recognized is the fact that organizations vary in their awareness of the field around them. Awareness refers to both the recognition of other organizations and the recognition by organizational representatives that their organization is interdependent with other organizations in the field.

Interorganizational relationships do not occur automatically. A good part of interorganizational theory is predicated on the assumption that interorganizational relationships will not occur unless there is awareness of potential or actual interdependence among the organizations involved (Levine and White, 1961; Litwak and Hylton, 1962; Levine et al. 1963; Litwak and Rothman, 1970). Klonglan et al. (1976) have suggested that there is a hierarchy of awareness. First is a general awareness of the existence of other organizations and their activities. The next level involves mutual acquaintance among the directors of the organizations. The focus on directors is probably too narrow, since acquaintances among staff members would be of great importance in some instances. The next levels of awareness involve specific interactions such as joint board membership among directors. We will deal with these levels in other sections, since they involve interactions that are a step beyond simple awareness and encompass dimensions of interorganizational activity that warrant separate treatment.

Van de Ven and Ferry (1980) approach awareness from a different perspective. They suggest that there are two levels of awareness. At the more general level is the extent to which **boundary spanners** in organizations are knowledgeable about the goals, services, and resources present in other organizations. This awareness provides identification of alternative sources of services and resources. According to Van de Ven and Ferry, higher levels of awareness are likely to result in higher levels of interactions. The second level of awareness involves personal acquaintances among the boundary spanners or key contact persons in each organization. In Van de Ven and Ferry's fomulation, the duration and quality of interpersonal acquaintances can also contribute to awareness and high levels of interorganizational contact.

Measurement

a. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al. 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same State agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of other community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical measures of variables at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of the Early Childhood Development Agencies data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: AWARENESS

Definition: Awareness refers to the extent to which agency contact persons are familiar with the services and goals of each others' organizations and how long and how well they have known each other on a personal basis.

Data collection: In the Texas Early Childhood Development Agency Study, data were collected by means of both interviews and questionnaires. The directors of the agencies first completed a "focal agency" interview schedule which was administered by the research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents selected and answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months.

After the directors of the focal agency were interviewed, a questionnaire was mailed to the contact persons of all organizations which the directors had mentioned in the interviews. This "member agency" questionnaire included questions which matched those of the focal agency questionnaire on key elements of the interorganizational

relationship. Respondents recorded the name of each agency in the space provided on the questionnaire. In this way, the questions elicited information from both members of each dyadic relationship. In all, complete data were available on 133 dyads.

In the interviews and questionnaires, the following questions were asked to assess agency and personal awareness:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
1. How well informed are you about the specific goals and services of this other agency?	_____	.....	_____

Don't Know	Not Informed	Little Informed	Somewhat Informed	Quite Informed	Very Well Informed
0	1	2	3	4	5

2. To what extent did this agency participate in earlier phases of planning your project?	_____	.....	_____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

3. How many years and months have you <u>personally</u> known this contact person in this agency?	Yrs. _____	.....	_____
	Mos. _____	.....	_____
4. How well are you <u>personally acquainted</u> with the contact person in this agency?	_____	.....	_____

No Personal Acquaintance	Not Very Well	Somewhat Well	Quite Well	Very Well
1	2	3	4	5

BEST DOCUMENT AVAILABLE

Computation: Questions 1 and 2 refer to agency awareness, and questions 3 and 4 relate to personal awareness of agency personnel. To obtain a dyadic measure of agency awareness, the responses of the focal agency respondent and the other agency respondent to question 1 were averaged. Then the response to question 2 (answered only by the focal agency respondent) was added to this average and a new mean score was derived. This mean score is used as a composite index of agency awareness. Two separate dyadic measures of personal awareness were derived. Responses to question 4 by focal agency and member agency respondents were summed and averaged for the first measure; the second was based on the focal agency response to question 3.

Comments: Van de Ven and Ferry (1980) report validity and reliability data for the dyadic version of these measures using a principal components factor analysis with an oblimin rotation solution. The two items composing the agency awareness index loaded on a single factor and were judged to be relatively independent of other measures in the OAI (alpha = .89, median r = .33 with other indices). Only one of the personal awareness measures, however, demonstrated significant discriminant validity. Responses to question 3 (years personally known) loaded highly on a single factor with adequate reliability (median r = .02 with other indices). Responses to question 4 (personal acquaintance) loaded more highly on an interagency consensus factor than on the personal awareness factor. Accordingly, the authors recommend that this item be deleted in future studies and that responses to question 3 be used as the measure of personal awareness.

Domain Consensus

Conceptualization

The domain issue has particular salience in interorganizational relationships. Unfortunately, several meanings are embedded in the ways in which the concept has been used. One meaning has a simple spatial referent. The domain is the geographical area served by an organization. In these cases the issue of domain is usually settled in advance, with domain not really an issue except for potential clients who may reside at the boundary of two organizations' domains. The concept of geographical proximity is related to this meaning of domain but it is presented under a separate heading below.

A more important aspect of domain relates to the level of agreement about the role or task differentiation among the organizations involved in interorganizational relationships (Levine et al., 1963). The roles organizations play relative to one another in terms of their programs, services, and clients to be served may be critical issues for the organizations involved. Aldrich (1972a) views domain consensus in this manner as the degree to which an organization's claim to a specific domain is disrupted or recognized by another organization. Another variant of this concept has been offered by Greenley and Kirk (1973). They contrast two types of domain: **claimed domains** and **de facto domains.** The former refers to what an agency says it does in written statements or public pronouncements, while the latter reflects the actual clients served and programs available on a day-to-day basis. Agencies may claim a much larger domain than they actually "fill up" so as to enhance fund raising and resource acquisition. Thus, consensus may occur over claimed or de facto domains and, in many situations, disparities between the two may affect the quality and nature of interorganizational relationships.

Levine and White (1961) have argued that domain consensus must exist before exchange relationships among agencies are possible. Molnar (1978) suggests that organizations with intersecting domains tend to be more interdependent than those that do not share domains, with intersecting domains contributing to interorganizational relationships. Others, such as Schmidt and Kochan (1977) and Hall et al. (1977) have argued that interorganizational relationships do not depend on domain consensus. These authors suggest that the level of consensus does affect the qualities of relationships, but not their existence. Cook (1977) has also suggested that exchange relationships do not depend on such consensus.

The various forms of consensus are important for interorganizational relationships. There is agreement that consensus will lead to more positive relationships among the organizations involved. Whether this is desireable or not, of course, depends upon the context.

Measurement

a. Van de Ven and Ferry (1980)

Study description: Van de Ven's work has been described previously under the measurement of agency awareness. The reader should consult that section for background on the research studies from which the present measure is derived.

Concept: DOMAIN CONSENSUS

Definition: Domain consensus refers to the extent of agreement or disagreement among parties in an interorganizational relationship on the needs and problems of the community service delivery system in general and the specific means (services) and ends (goals) of each agency involved in the network.

Data collection: In the Texas Early Childhood Development Agency Study, data were collected by means of both interviews and questionnaires. The directors of the agencies first participated in a "focal agency" interview conducted by the research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents selected and answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months.

After the directors of the focal agency were interviewed, a questionnaire was mailed to the contact persons of all organizations that the directors had mentioned in the interviews. This "member agency" questionnaire included questions which matched those of the focal agency interview on key elements of the interorganizational relationship. In this way, questions regarding the relationship elicited information from both members of the dyad. In all, complete data were available on 133 dyads.

In the interviews and questionnaires, the following questions were asked to assess domain similarity:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer

scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
To what extent do you and the contact person in this agency agree on: (Use the scale following the last question)	_____	.....	_____
The most important needs of children from ages 0-6 in your community?	_____	.....	_____
The way services in general should be provided to young children in your community?	_____	.....	_____
The service goals of the Early Childhood Development Project?	_____	.....	_____
The specific way early childhood services are provided by the Early Childhood Development Project?	_____	.....	_____

Don't Know	Disagree Much	Agree A Little	Agree Somewhat	Agree Quite A Bit	Agree Very Much
0	1	2	3	4	5

Computation: The unit of analysis in Van de Ven and Ferry (1980) is the dyad. All four of these questions were answered by both the focal agency respondent and the member agency respondent. The responses to each question from both respondents were averaged to form a score for each dyad. Then the dyad scores on each of the four questions were averaged to obtain a composite domain consensus measure.

Comments: The authors report validity and reliability data for the dyadic version of this measure using a principal components factor analysis with an oblimin rotation solution. The four items which compose the domain consensus index loaded quite highly on only one factor (alpha = .87); while at the same time, none of the items composing the various other OAI indices loaded on this factor (median r = .27 for other items). This is taken as evidence that the measure of domain consensus is both valid and reliable. This index, however, is only a partial measure of domain consensus as this concept is discussed in the literature. The emphasis on the extent of agreement concerning client needs, the way services should be provided to them, and the goals of the project all focus attention on shared values and agency goals. This focus ignores consensus over geographical aspects of shared domains, for example, the manner in which the service area is split up by the agencies involved. In addition, the third and fourth items of the index which deal with Early Childhood Development Projects are study specific. Its not clear that they would be relevant in the general case unless one of the agencies sponsored an analogous program. Since the first two questions inquire about clients (in this case, children) they would be easily transferable to other direct service settings with only minor wording changes.

Domain Similarity

Conceptualization

For an interorganizational network, domain similarity refers to the extent to which the interacting organizations are alike in terms of sources of funding, professional staff, clients, and services rendered (Van de Ven and Ferry, 1980). Most of the research interest in domain similarity centers around the question of whether or not it helps the establishment and maintenance of interorganizational relationships. There is conflicting evidence, however, on this issue. Similar domains make it likely that organizations will be aware of one another and that they will possess the complementary resources needed to help each other achieve their respective organizational goals. Broskowski (1980), for example, notes that the possession of complementary resources enables organizations to establish relations which are beneficial to each party. Thus, domain similarity may facilitate the formation of interorganizational relations. On the other side, high domain similarity may increase the potential for territorial disputes and the level of competition for scarce resources. Resource competition, in turn, may reduce the potential benefits of forming a relationship.

It is quite possible, nonetheless, that some intermediate level of domain similarity will facilitate the formation of linkages among organizations. Van de Ven and Ferry (1980) suggest that, in such a situation, organizations are likely to have some complementarity of resources and an awareness of their interdependence, but they are also likely to be involved in some degree of competition or territorial dispute. Such a balance can promote a convergence of interests among the interacting organizations and a greater willingness to risk exchanges (Reid, 1964; Litwak and Rothman, 1970).

Another aspect of the domain similarity issue involves ideological considerations. Analysts such as Benson et al. (1973); Boje and Whetten (1981); Hall et al. (1977); Mulford (1980); and Schmidt and Kochan (1977) have grappled with this issue in their research. The ideology can involve the compatibility of the goals of the organizations involved, conformity in terms of treatment ideologies in human service organizations, and compatability in terms of understanding the nature of the issues faced (Hasenfeld and English, 1974). The ideological issue becomes important in practice. For example, police agencies typically have a different ideology toward problem youth than do social welfare agencies. These differences, which can be severe or mild, affect the qualities of interactions among the organizations.

Measurement

a. Van de Ven and Ferry (1980)

Study description: The context of Van de Ven's work has been described previously under the measurement of agency awareness. The reader should consult that section for background information on the research studies from which the present measure is derived.

Concept: DOMAIN SIMILARITY

Definition: Domain similarity is the extent to which organizations in a relationship obtain their funds from the same sources, have the same goals, have staff

with the same professional skills, and provide the same kind of services to the same clients or customers.

Data collection: Data were collected by means of a "focal agency" interview with directors of the Early Childhood Development Agencies. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, the respondents selected and answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months. Thus, information was obtained about the focal agency's relations with each of 7 to 11 other agencies. In all, complete data were available on 133 dyads.

The following questions were asked to assess domain similarity:

"We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
To what extent does this agency: (Use the scale following the last question)			
Obtain its funding from the same sources as your organization does?	_____	.....	_____
Provide the same kind of child care services as your organization?	_____	.....	_____
Provide services to the same clients or families as your organization?	_____	.....	_____
Have the same kind of operating program goals as your organization?	_____	.....	_____
Have staff with the same kinds of professional skills or training as those required of staff for your organizations?	_____	.....	_____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

Computation: The format of these five questions departs from the typical dyadic measure in that they were answered only by the focal agency respondent. On each question, a score of 1 to 5 was assigned to describe the relationship between the focal

agency and each of the other agencies in the study. The scores for each question were summed and averaged to obtain an overall composite score for the domain similarity of the focal agency and each of the other agencies.

Comments: The validity of this measure of domain similarity is assessed by means of a factor analysis. Using a principal components analysis with an oblimin rotation solution, the authors found that four of the five items composing the index loaded highly on only one factor. The fourth item, "the extent to which the agency's have the same kind of operating program goals," did not load highly on the same factor as the other items in the index. The authors recommend dropping this item from the index in further analyses.

The reliability of this index was also assessed. The authors postulated an alpha coefficient of .35 - .55; the observed alpha was .31. They indicate that although this is lower than expected, the internal consistency of the items is acceptable. The median correlation between this index and others in the study is .30. This is also claimed to be adequate.

Geographical Proximity

Conceptualization

The spatial distribution of organizations has received relatively little attention in the literature on organizations (Hannan and Freeman, 1977). Geographical proximity refers to this relationship between organizations or their subunits. It has been noted that distance can facilitate or inhibit interactions (Broskowski, 1980). It is more difficult to establish or maintain relationships across distances, for organizations as for individuals. It can also be noted that the type of resource involved in an interorganizational relationship interacts with the spatial issue. Modern communication techniques permit rapid information flows across space, but clients or staff members would be more difficult to transfer.

Reid (1969); Schermerhorn (1975); Boje and Whetten (1981); Gans and Horton (1975); and Halpert (1981) have suggested that the decision to coordinate with another organization is easier if the organizations involved are physically close to one another. Proximity promotes familiarity of domains, recognition of similarities in orientation and staff, and mutual dependence for acquisition of scarce resources (Halpert, 1981). In many communities several city or county agencies might be housed in the same building. This proximity would facilitate interactions in comparison with organizations that are spread throughout a large geographical area.

Measurement

a. Boje and Whetten (1981)

Study description: This study examines the ways organizations become central actors in interorganizational networks as well as the effect of network centrality on the perceived influence of the organizations. The authors argue that interorganizational networks possess unique characteristics, and that there is a need for models of power among organizations which take into account these characteristics. The study was conducted in 17 communities in a large midwestern state; 316 manpower organizations

in these communities were included. The number of organizations in each community network ranged from 15 to 27, with an average of 18.6.

Concept: GEOGRAPHICAL PROXIMITY

Definition: No explicit definition is provided by the authors, but the concept refers to the geographic distance among organizations in the same network.

Data collection: Data from three sources were used in this study. Personal interviews were conducted with the top administrators of each of the 316 organizations. In addition, agency documents were obtained and inspected, and in the case of public agencies, telephone interviews with regional, State, and Federal level administrators were carried out. The data concerning geographical proximity were compiled by the investigators using maps and address listings of the various agencies in each community. The distance between agency pairs in each site were scored according to the following scale:

6 = Same office or building
5 = Within 1 or 2 blocks
4 = Same side of city (3-15 blocks)
3 = Across town
2 = Different city, but in same county
1 = In next county

Computation: A two-step procedure was used to assign a network-specific score to each agency. First, the distances from each agency to all other organizations in its network were calculated according to the above scale. Depending upon the size of the network, these calculations yielded from 14 to 26 pair-wise scores for each agency. Second, the pair-wise scores for each agency were averaged to obtain a composite distance score. This composite distance score was then used as a measure of the agency's geographical proximity to the other organizations in its network.

Comments: While this measure can involve a tedious set of calculations for large networks, it does eliminate potential errors in an interview or questionnaire that may result from respondents' estimates of distances. It is also clear that the scale was developed for fairly localized networks; for more widely dispersed agencies, appropriate modifications in the distance categories would be needed. The authors do not report any validity or reliability data for these calculations nor do they provide a sound justification for the interval or metric scoring of these particular categories.

Localized Dependency

Conceptualization

Related to the issue of geographical proximity is localized dependency or the extent to which organizations are dependent upon a local area for their resources. Service agencies may vary a good deal in terms of their localized dependence on community agencies and groups. While it is unlikely that any organization can be wholly independent of its local community, some agencies are more dependent than others. The forms and consequences of such dependency have been the focus of a number of empirical studies.

Levine and White (1961), for example, found that the accessibility of resources from outside the community determined whether or not exchanges occurred among health and welfare agencies. When an agency had access to extra local resources, its dependency on other community agencies and its cooperative linkages with them were low. Moreoever, relationships between localized and nonlocalized agencies often involved disputes and disagreements. Klonglan et al. (1976) report that exchange relations will differ for State and county level agencies. State agencies are likely to control larger amounts of resources and thus may have a low propensity to seek out and form interorganizational relationships. County agencies, on the other hand, are more likely to form interorganizational linkages in order to obtain needed resources. Because county agencies have fewer alternatives open to them and are more dependent on the local economy, they may actively seek out linkages with State agencies and other units of county government. Galaskiewicz (1979) and Maas (1979) have also examined localized dependency. They note that if organizations are highly dependent on local funding, they are usually more central in networks among community organizations and are seen as more influential by other organizations. If, on the other hand, there is high localized dependency with relatively weak access to outside resources, the organization is much more vulnerable to the power of other organizations.

Measurement

a. Mulford (1980)

Study description: This study investigated the relations between 17 agencies concerned with delinquent and predelinquent youth in a midwestern city. The author's focus was on the dyadic relations between the core agencies (those which provided direct services or funding) for this client population. Data were obtained on each organization and its interactions with the other 16 agencies in the community. A total of 136 dyads were analyzed in the study.

Concept: LOCALIZED DEPENDENCE

Definition: No explicit definition is provided by the author, but the concept is used with reference to an agency's dependence on local funding sources.

Data collection: The data were collected in interviews with the chief administrator of each organization or with the person named by the administrator as the individual who interacted most frequently with the other core organizations. The measure of localized dependence was derived from responses to the following questions:

"What is the primary source of your agency's funds?"

_____ Federal
_____ State
_____ County
_____ City
_____ Organizational Campaign in local areas

Computation: A score of 1 through 5 was assigned to each agency to reflect its primary funding source with (1) corresponding to Federal and (5) corresponding to local campaigns. The scores for each agency pair were summed to obtain a dyadic score that could range from 2 to 10. The higher the dyad score, the more the pair of organizations is dependent on funds from local sources; conversely, the lower the score, the less the members of the dyad are dependent on local funding sources.

Comments: Consistent with most discussions of the concept, this measure relies upon sources of funding as the primary form of organizational dependency. However, organizations are dependent on their environments for a variety of other resources including technologies, personnel, clients, and markets to consume their products or outputs. Even with extralocal funding, an organization might experience high degrees of dependency if these other resources are controlled by, or limited to, local sources. In addition, only one type of local funding (campaigns) is specified. This ignores client fees, community foundation grants, and a number of other potential sources of locality-based support. Another aspect of dependency is also overlooked; namely, the number of distinct sources of funding support at the local level. Following Evan (1966), it can be argued that an organization which receives all or most of its funding from a single local source will be much more dependent than another organization which receives funding from a large number of different local organizations. Finally, the author does not provide any validity or reliability data for this measure. Given the complexities of present day Federal-State-local funding streams, it is also problematic whether respondents in different agencies can accurately and unambiguously assign funding sources to these categories in an interview format. An effort to cross-validate such responses with a content analysis of agency budgets would enhance the measure.

Size

Conceptualization

The final situational factor to be considered in this sourcebook is the size of the actual or potential set or network of organizations. In the population-ecology tradition of interorganizational research (Hannan and Freeman, 1977; Aldrich, 1979), attention has been focused on the rate of growth of a population of organizations. It argued that the larger the number of organizations in a population, the more likely they will compete for resources and the more slowly will the population increase. In the interorganizational network approach, the size of the network is seen as having an important impact on the nature and quality of the relationships that are established (Litwak and Hylton, 1962; Evan, 1966; Warren, 1967; Broskowski, 1980).

Size is a situational factor in interorganizational analysis in that at any given time there are a finite number of organizations available for interactions. In general, the number of organizations in a set or network is related to the complexity faced by any single organization. It has also been suggested that large numbers of relationships decrease the probability of linkage and may weaken the quality of the relationships (John, 1977; Caragonne, 1978; Agranoff and Pattakos, 1979). An increase in the number of organizations in a set or network affects dependencies, domains, and the potential rewards or resources for participating in the relationship.

Again, the analogy with individuals is appropriate here. Many ties reduce the likelihood of each of the ties being strong, so that a greater proportion of linkages in a large network would be more superficial than in a small network. While weak ties among individuals have been shown to have great importance for their job seeking (Granovetter, 1973), there is no solid evidence regarding the impact of weak ties among organizations. It would appear that a large set or network would have the potential for dissipating resources and actions; but it could also lead to a situation in which there were many alternatives for an organization in terms of resource acquisition, client flows, and the like. Caplow (1964) has demonstrated the manner in which the number of

relationships increases exponentially as group size increases. The same thing would occur among organizations.

Measurement

a. Whetten and Aldrich (1979)

Study description: This study investigates the organizational and environmental determinants of the size and diversity of the organization-sets of "people-processing" organizations. The authors argue that we have a meager understanding of the factors which influence the establishment of interorganizational relationships. By grouping a variety of organizational and environmental factors according to the amount of discretion local directors have to manipulate them, it is suggested that the best predictors of organization-set size are factors over which local administrators have little control. The data were collected during the summer of 1973 in a number of communities in New York State, excluding New York City. The study included four types of manpower programs and State Employment Service placement offices. Complete data were available for 64 organization-sets.

Concept: ORGANIZATION-SET SIZE

Definition: Organization-set size was defined as the number of organizations with which the focal organization had direct links.

Data collection: Data collection proceeded in two ways. First, a master list of organizations in each community was compiled over a 2-year period from directories of community organizations supplied by local government and social service coordinating agencies. This master list was composed of every known public and nonprofit organization in the focal organization's community and surrounding area. The list was validated several months before the study began by asking the directors of the manpower organizations and the heads of the social services department and Chamber of Commerce in each city to check the list for omissions and errors. Interviews were then conducted with agency directors. The directors were presented with the master list and asked to:

> "Please indicate which of these organizations in your community your organization has interacted with."

Computation: For each agency, the total number of local organizations with which the agency interacts was computed. Each agency's organization-set thus constituted the number of other local organizations with which it interacts. In this study, the mean size of the organization-set was 72, with a median set size of 56. The sets ranged in size from a minimum of 12 to a maximum of 267; the standard deviation was 48.

Comments: This study represents one of the most thorough efforts in the literature to compile rosters of organization-sets in a large number of communities. The final measure of organization-set size is quite straightforward and easily computed since it relies on a simple frequency count of other organizations having direct links to the focal organization. The measure can be easily adapted to dyads (by definition, a dyad is composed of two organizations) and networks. In the latter case, the size of the network would be identical with the size of the organizational-set. The difference

would occur in the structure of the data collection process since a network requires complete enumeration of every link between each organization in the set, whereas the set relies only on linkages to the focal organization. Reference to figures 1 through 5 in chapter II will help to visualize the similarities and differences between set and network configurations.

Embedded in the measurement process at the set and network levels, however, is one of the principal issues in interorganizational research: how to "bound" the focal universe of organizations (Laumann et al., 1978; Morrissey, 1982). The investigator's criteria for inclusion and exclusion of agencies in a given study will define the unit of analysis (set or network) and establish its size. These criteria will vary according to the purpose of the study. The web of interagency relationships in most communities, however, is such that it often appears that "everything is linked up with everything else." Thus, difficult choices have to be made regarding which agencies to include in the study.

It should also be noted that the size measure does not distinguish between the intensity, importance, or frequency of contacts. Each of these dimensions refers to separate measures presented elsewhere in this sourcebook.

While Whetten and Aldrich do not present any quantitative indices for the validity and reliability of their measurement process, they do indicate that their agency lists were confirmed by key informants in each community. Thus these enumerations have higher "face" validity than those based exclusively on investigator judgments.

VI

BASES OF INTERACTION

Interorganizational relationships not only occur in an environment and a situational context; they also arise for some reason or purpose. Several different reasons or bases for contact among organizations have been studied in the literature. Often these bases are not clearly differentiated either at a conceptual or an empirical level. Here we will review four bases of interaction and their associated measures in terms of voluntary vs. mandated interactions, ad hoc vs. formalized relations, bargaining or exchange relations, and interactions based on interpersonal ties. The outcome from each basis is likely to be different for the organizations involved and for the relationships themselves.

Voluntary vs. Mandated Interactions

Conceptualization

Much of the early work in the field of interorganizational analysis viewed transactions between organizations as essentially **voluntary** in nature. To a large extent, this was due to the exchange theory formulations espoused by Levine and White (1961) in their widely cited article (also see Cook, 1977). As a consequence, little attention was focused on the origin or "starting mechanisms" involved in such transactions; instead, the content of the exchange (e.g., clients, funds, information) was the criterion for analyzing the differential patterns of voluntary interactions. More recently, the fact that many interorganizationsl relationships are **mandated** in Federal or State legislative regulations or other administrative-judicial decrees has received increased attention. Under such circumstances, the behavior of interacting organizations may depart from the precepts of exchange theory in important ways.

Mandatedness refers to the extent to which relationships are governed by laws or regulations. These laws or regulations are imposed on the relationship by legislative or administrative rulings. For example, laws regarding unemployment compensation may require a public employment agency to interact with a welfare department in order to determine client eligibility. Such interaction may or may not have occurred without a mandate present. Halpert (1981) points out that a mandated relationship may place an organization in a contradictory position. Compliance with the mandate may disrupt established procedures. At the same time, it may be necessary for the organization if it is to receive financial support.

The importance of a mandate for interorganizational relationships has been identified by Schmidt and Kochan (1977) and Hall et al. (1977). Hall et al. (1977; 1978) and Molnar and Rogers (1979) suggest that mandated relationships may lead to conflict, since organizations may be forced to interact even with domain dissensus, interpersonal animositites among members, and so on. Mandated relationships, however, do not

guarantee that interactions will take place. Unless there is some sort of enforcement mechanism, organizations may ignore a mandate. Since mandates are typically associated with some type of resource flow and with monitoring, they typically do in fact serve as an important basis for interorganizational interactions. It is quite possible that an organization can receive contradictory mandates (Gardner and Snipe, 1970). This means that an organization will have to try to serve several mandates at one time, along with its own orientations from an exchange perspective. It may seek to interact with one organization, but be forced to interact with one or more other organizations. Again, this moves the analysis of interorganizational interactions still further from the basis of pure relationality which is emphasized in most exchange theory formulations (Cook, 1977).

Measurement

a. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interactions which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: BASES OF CONTACT

Definition: No explicit definition of the bases are provided by the authors, but the overall concept is used with reference to the reasons relationship exists between organizations.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure the bases of contact:

> "What is the most common basis of the contacts with each agency? (Choose the best answer for each other organization and place it in the appropriate space, leave the line for your own organization blank)"
>
> 0 = no contact
> 1 = required by law
> 2 = formal agreement between
> 3 = common practice
> 4 = on the basis of a specific need or problem
> 5 = other (please specify)
> _____
> _____
>
> ___ County Juvenile Court
> ___ County Department of Social Services, Child Welfare Division
> ___ County CMHC
> ___ County Probation Service
> ___ County Detention-Shelter Care
> ___ City Police Department, Juvenile Division
> ___ City Public Schools, Student Service Department

Computation: This question provides global measures of the several bases of interaction reviewed in this sourcebook. Although the numeric codes give the

appearance of a unidimensional scale, the response alternatives were treated as separate variables. A 3-step procedure was used to construct the measures. First, the percentage of each organization's respondents who assigned one or another of these scores to each of the other organizations was computed. Second, the response category with the largest percentage was then used to designate the basis of contact for the dyadic relationships between each pair of agencies. Finally, for analysis purposes, a series of dummy (0/1) variables were created so that each relationship could be described as legally required (1) or not (0); based on common practice (1) or not (0); and so forth for each base of contact.

Comments: This measure encompasses most of the major bases of contact between organizations that have been identified in the literature. The use of multiple respondents in each organization also mitigates many of the response biases typically associated with a single key informant, such as the agency director or a boundary role encumbent. One potential complication in the use of this scoring procedure, however, is that for some organizations one base of contact might not receive a majority or consensus response. In addition, since each base of contact is referenced with only a single item, conventional tests of validity and reliability cannot be performed from the data gathered in a single study.

b. Boje and Whetten (1981)

Study description: This study examines both the ways organizations become central actors in interorganizational networks and the effect of network centrality on the perceived influence of the organizations. The study was conducted in 17 communities of a large midwestern State. The principal data base was generated from personal interviews with the top administrators of 316 manpower organizations in the 17 communities. The number of organizations in each community network ranged from 15 to 27, with an average of 18.6. In addition, two other sources of data included agency documents and, in the case of public agencies, telephone interviews with regional, State, and Federal level administrators.

Concept: MANDATED LINKAGES

Definition: No explicit definition is provided by the authors, but the concept refers to requirements imposed by external agencies or governing bodies for relationships between organizations.

Data collection: The data concerning mandated linkages were obtained from documents, Federal and State legislation, and telephone interviews with administrators of Federal, State and regional agencies. Court orders which had a bearing on the relationships were also consulted.

Computation: The measure was derived from a frequency count of the mandated linkages identified from these sources. Each agency received a score corresponding to its total number of mandated relationships with other agencies.

Comments: This measure is objective in the sense that it relies primarily on documents and records rather than questionnaires or interviews with agency respondents. Although no quantitative validity and reliability estimates are reported, the measure may accurately reflect the variety and number of agency mandates. However, these enumerations do not reflect agency perceptions of these mandates.

Since mandated linkages can vary in their intensity and importance for the parties involved, a more sensitive index might be created by taking these differential implications into account. This could be done by incorporating the objectively established mandates in a questionnaire or interview format, and then asking agency respondents to evaluate the extent to which each mandate constrains or dictates their agency's interorganizational relationships. For an example of this multi-method approach, see the Smith et al. (1979) measure of environmental intensity in chapter IV.

Ad Hoc vs. Formalized Interactions

Conceptualization

In addition to the mandated basis of interaction, the extent to which explicit agreements or contracts define the terms of the relationship is another core dimension of interorganizational analysis. This dimension is most often discussed in terms of ad hoc as opposed to formalized relationships. Relationships have an ad hoc basis when there is little or no previous patterning in the relationships among organizations. A specific need, problem, or issue may arise among two or more organizations. In the mental health area, for example, a client with an unusual problem may trigger one organization to call up another to get an opinion or to make a referral. Ad hoc bases are the least important for interorganizational relationships, since they tend to be one-shot contacts. If an ad hoc situation repeats itself, or if more elements enter the relationships among the agencies involved, more formalized bases for a continued relationship will often develop.

Marrett (1971) defined formalization as the degree to which the interdependency among organizations is given official sanction by the parties involved. This official sanction or recognition (Aldrich, 1979) is typically written down and may be legally or contractually binding (Van de Ven and Ferry, 1980). Once the agreement is signed or otherwise authorized, it throws the relationship into a different light, since interactions are based on a specified pattern, rather than going through a negotiation process at each interaction episode. In a study of organizations concerned with problem youth, for example, Hall et al. (1977) found that the presence of a formal agreement between organizations was related to the frequency and importance of interactions to a greater degree than other bases of interaction. They also found that the evaluation of other organizations in interaction, by a focal organization, was less important when a formal agreement was in place. Apparently, the presence of a formal agreement is based on frequent and important interactions among organizations, with the agreement serving to simplify interactions since each interaction does not have to be weighed in terms of its contributions to the organizations involved. The organizations have agreed to interact and the interactions take place.

There are a number of overlaps in the legal bases of interaction (discussed in the previous section) and the formalization of relationships. Mandated relations, for example, may vary in the degree of formality used in their operation and management (Broskowski, 1980). A relationship may be required by a funding agency with no specific indications with respect to the scope of the agreement, its anticipated benefits, its financial cost, and means for resolving any potential conflicts. However, Broskowski (1980) claims that such relations are basically unstable; they tend to become stable only if both organizations come to share a positive attitude toward one another and the relationship they have.

Similarly, Aldrich (1979) follows Marrett's (1971) conventions in distinguishing between agreement formalization and structural formalization. Agreement formalization in this context refers to the extent to which a transaction between two organizations is given official recognition and is legislatively or administratively sanctioned. Thus, in Aldrich's usage, a relation which is legislatively mandated would represent high agreement formalization while ad hoc relations would represent low formalization. Structural formalization, in contrast, refers to the extent to which a relationship is mediated or coordinated by a supraorganization or a third party. This aspect of formalization is reviewed elsewhere in this sourcebook (see chapter VIII).

Measurement

a. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al., 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). A major objective of their work has been to develop a set of data collection instruments for organizational research at the intraorganizational, dyadic, and network levels. Findings to date are summarized in Van de Ven and Ferry (1980).

This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same State agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of other community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical variable measures at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of the Early Childhood Development Agency data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: AGREEMENT FORMALIZATION

Definition: The formalization of an interagency agreement refers to the degree to which the role behavior and activities of each agency are clearly prescribed and codified.

Data collection: Data were collected by means of interviews with agency directors. Each director completed a "focal agency" interview schedule which was administered by the research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months. Thus, these questions were asked about the agency's relations with each of 7 to 11 other agencies. In all, complete data were available on 133 dyads.

The following questions were asked to assess the formalization of interagency agreements:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

		Agency 1	.....	Agency N
Has any form of agreement been established to define the relationship between your organization and this agency?	Yes	_____	.....	_____
	No	_____	.....	_____
If YES, to what extent is/was the agreement with this agency:				
Explicitly verbalized and discussed?		_____	.....	_____
Written down in detail?		_____	.....	_____
Legally binding or contractual?		_____	.....	_____
Mandatory by law?		_____	.....	_____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

Computation: These questions were answered only by the focal agency respondent. The first question acted as a filter; only if it was answered in the affirmative for a particular agency were the remaining four questions asked. The respondent evaluated the focal agency's relationship with each of the member agencies by assigning a score ranging from 1 to 5 to each of the member agencies. The mean scores on these questions relative to each of the member agencies were then computed. These scores reflect the degree of formalization of agreements between the focal agency and each of the member agencies. The higher the scores, the greater the

formalization of the relationship; the lower the scores, the lower the formalization.

Comments: This measure appears to tap the main ideas underlying the concept of agreement formalization as a distinctive basis of interagency contact. As a multi-item index, it also has desirable measurement properties. The validity of the items in the study was assessed by means of a factor analysis. Using a principal component analysis with an oblimin rotation solution, it was found that each of the four items loaded only on one factor. The loadings on this factor were quite high, and none of the factors loaded highly on any of the other nine factors. Thus, none of these items are confounded with items measuring other concepts. In assessing the reliability of the measure, the authors compared the expected and observed alpha coefficients and the median correlations of the indices with one another. The expected alpha coefficient for the interagency formalization index was .70 - .90; the observed alpha coefficient was .64. While the alpha coefficient was smaller than expected, the authors argue that it is acceptable. The median correlation of the items in the index with the other indices was .27. This, also, was claimed to be an acceptable level of discriminant validity.

Bargaining or Exchange Interactions

Conceptualization

Another basis of interaction that relates to both mandatedness and formalization is the extent to which the relationship involves bargaining or negotiation among organizational representatives (Schmidt and Kochan, 1977). In one sense, bargaining is akin to a voluntary exchange (nonmandated) but negotiation processes are often involved in each base of contact. The interpretation of external mandates, the formulation of agreements, and the specification of a **quid pro quo** in ad hoc arrangements all require some degree of bargaining.

Exchange as a basis for interorganizational relationships, as noted earlier, has been a dominant orientation since Levine and White (1961). According to Levine and White (1961:12) exchange is: "any voluntary activity between two organizations which has consequences, actual or anticipated, for the realization of their respective goals or objectives." Cook (1977) has extended this concept beyond its original two-party or dyadic formulation. She examines exchange within networks of organizations and incorporates power differentials among organizations into her formulation. The exchange idea incorporates the notion that organizations must acquire resources, and that exchange is the major mechanism by which this occurs (Thompson, 1967; Jacobs, 1974; Benson, 1975).

The exchange basis of relationships can be seen as a form of bargaining (Schmidt and Kochan, 1977) in which an organization seeks to maximize its advantage in acquiring resources from another organization. Although the exchange formulation seems to imply that this is bargaining among equals, modern exchange theory as exemplified by Cook's work does not make that assumption since power differences among organizations are taken into account. Schmidt and Kochan (1977) argue that even in a situation in which there is a great imbalance of power, the powerful organization which seeks to interact with a weaker organization can do so because of the power difference. The exchange is unequal, but the participants do engage in resource exchange. The exchange basis of interaction emphasizes the importance of resource acquisition for the organizations involved. It also contains an implication of

rationality, as the organizations seek to maximize their gains in interaction. All of the problems associated with decisionmaking in organizations must be considered in exchange interactions, since decisions here cannot be assumed to be any more rational than decisions made in other spheres of organizational actions (Simon, 1957; March and Simon, 1958).

Measurement

a. Schmidt and Kochan (1977)

Study description: This study examines the conditions under which the exchange and power-dependency perspectives can be applied to interorganizational relationships. The basic premise of the study is that an integrated perspective which incorporates propositions from both perspectives is needed to understand interorganizational relationships. The study was conducted in 1972-1973 using data on interactions between community organizations and district offices of the U.S. Training and Employment Service in a midwestern State. The analyses involved a total of 146 paired relationships between the community organizations and the employment service district office.

Concepts: BARGAINING AND SETTING THE TERMS OF INTERACTION

Definition: No explicit definitions are presented by the authors, but both concepts are used with reference to the extent of negotiation and bargaining in interorganizational relationships.

Data collection: The data for this study were obtained from a sample of 23 district offices of the United States Training and Employment Service and 146 community organizations which had an ongoing relationship with them. From the community organizations, data were obtained which described their interactions with employment service district offices. Information was also obtained from the district offices describing their interactions with the community organizations. Directors of each community organization and corresponding district office received a self-report questionnaire measuring the 10 dimensions of organizational relationships used in the study.

The following questions were asked in order to assess who set the terms of interaction between the community organizations and the employment service district offices, and the extent of bargaining in these relationships:

> "These questions examine the nature of the relationship between the State Employment Service and your organization. For each question, circle the number which best describes your opinion."

1. "How are the terms of your organization's interaction with the employment service local office reached?" The terms are set:

Completely by them	Mostly by them	Mutually	Mostly by us	Completely by us
1	2	3	4	5

2. "To what extent do you see your organization's relationship with the employment service as a form of bargaining?"

Not at all						Very much
1	2	3	4	5	6	7

Computation: In the Schmidt and Kochan (1977) study these questions constitute two distinct measures which are presented together in this sourcebook because of the close parallel to bargaining or exchange as a basis of interorganizational contact. The answer to each question was assigned a separate score according to the appropriate response scale. Thus, a score of from 1 to 5 was given to responses concerning which of the two organizations, the employment service district office or the community agency, set the terms of the interaction. In addition, a score of from 1 to 7 was given to responses to the question concerning the extent of bargaining between district offices and community agencies.

Comments: The concepts of bargaining and negotiation have been central topics in interorganizational theory. However, they also have been difficult to measure satisfactorily in a questionnaire format due to their abstract nature and the variety of ways they might be manifested in a given contact. Thus, any single item or question may not capture their full meaning. This is particularly true of Schmidt and Kochan's measure for the extent of bargaining. The question leaves the respondent to define what is or is not to be considered bargaining. Respondents may vary a great deal in what they consider to be a bargaining relationship. Thus, without further specification, problems may arise from inconsistencies in the ways respondents interpret this term. The authors presented no information regarding the validity or reliability of either measure.

Interpersonal Ties

Conceptualization

Another potentially distinct basis of interaction involves interpersonal ties among organizational personnel (Mathiesen, 1972; Boje and Whetten, 1981; Galaskiewicz and Shatin, 1981). These can involve old school ties; membership in common professional, religious, or fraternal organizations; simple friendships; or contacts that are based on prior work in the same agency. It is possible to develop sociometric measures of such acquaintances (Rogers, 1974). More intimacy of interpersonal ties is seen to be linked to higher levels of interorganizational interaction. Overlooked in most analyses of such ties is their quality. Quite obviously, friendship will yield a different form of interpersonal relationship than will animosity. Interorganizational relationships, as our earlier discussions indicate, are based on much more than the friendship of the individuals involved, but this factor should not be overlooked.

Galaskiewicz and Shatin (1981), for example, found some evidence that the racial, ethnic, religious, and educational backgrounds of administrators, as well as their overlapping memberships in voluntary organizations, govern the formation of interorganizational linkages among neighborhood organizations. Particularly when the environments of these agencies become turbulent, the authors found that administrators

seek out other agency heads who have a similar educational background or are of the same race.

Measurement

a. Boje and Whetten (1981)

Study description: This study examines the ways organizations become central actors in interorganizational networks as well as the effect of network centrality on the perceived influence of the organizations. The study was conducted in 17 communities of a large midwestern State. The principal data base was generated from personal interviews with a total of 316 top administrators of manpower organizations in the 17 communities. The number of organizations in each community network ranged from 15 to 27, with an average of 18.6. In addition, two other sources of data included agency documents, and in the case of public agencies, telephone interviews with regional, State, and Federal level administrators.

Concept: INTERPERSONAL TIES

Definition: No explicit definition is provided, but the concept refers to the personal relations among personnel in different organizations.

Data collection: The data were collected by interviews with organizational administrators. There were four measures of interpersonal ties. Questions 1, 2, and 3 attempt to measure informal ties among organizational representatives, and question 4 attempts to measure their work ties. The following questions were asked:

"Often two organizations are linked together by informal ties among people who interact with one another away from their jobs. Would you:

1. Please list organizations where you know someone because you grew up together.

   _____ _____
   _____ _____

2. Please list organizations where you know someone because you attended the same college (or similar institution).

   _____ _____
   _____ _____

3. Please list organizations where you know someone because you have memberships in the same fraternal organizations (e.g., Church, Elks, Chamber of Commerce, clubs).

   _____ _____
   _____ _____

4. Please list organizations where you know someone because you previously worked together in another organization."

   _____ _____
   _____ _____

Computation: Responses from the first three questions were summed in order to give each organization a score on the informal dimension. That is, the number of

organizations specified in each question were added together to yield the total number of organizations with which agency personnel had informal relations. For the fourth question, the number of organizations identified was simply counted. This number then provided each organization with a second score for the presence of work ties. The two scores were then treated as spearate measures.

Comments: These measures go beyond a simple exchange framework which views interorganizational relations as based primarily on economic considerations. While economic orientations are no doubt important as initial bases for contacts, they may not be the most important factors in the **maintenance** of relationships. Boje and Whetten's measures provide a way of assessing contacts which may be maintained for noneconomic reasons. They focus on **shared biographies** among organizational representatives. From the point of view of organizational decisionmaking, however, there may well be other types of informal relations which are important. For example, having lunch regularly, drinks after work, or golf dates may be extremely important for the process of decisionmaking. This type of interaction may take place between individuals who do not have shared biographies and thus would not be identified by these measures. Future studies of interpersonal ties might try to expand measurement into these other areas as a supplement to the focus on shared biographies. No information concerning the validity or reliability of these measures is provided by the authors.

VII

RESOURCE FLOWS

Regardless of the environment, situational factors, and the bases of interactions, all interorganizational relationships have a content: something passes between the organizations involved. Exchange theory properly focuses on resource exchange and we will examine this in terms of the resource interdependency among organizations. Resource flows also vary in their intensity, so this quantitative aspect of interactions will be considered next. We will then turn to the issue of joint programs in which organizations engage in mutual activities as well as resource exchange. Finally, we will deal with the issue of interlocking boards of directors. This is a form of relationship which has received a great deal of attention in the recent literature on interorganizational analysis. It is placed in this section because of the potential contribution it makes to resource flows.

Resource Interdependence

Conceptualization

Circumstances in which two or more organizations are dependent upon one another for the resources each controls or has access to are the foundation of resource interdependency. Resources take a variety of forms. Galaskiewicz and Marsden (1978) examined inflows and outflows of information, money, and social support in their interorganizational analysis. Molnar (1978) also identified information, but added other resources in terms of funds, facilities, and personnel. He also suggests that organizations that have intersecting domains tend to be more interdependent. Mulford (1980) adds equipment and meeting rooms to the list of resources which could be exchanged. Clients can also be seen to be a resource in this context (Levine and White, 1961; Aiken and Hage, 1968; Aldrich, 1971; Boje and Whetten, 1981).

It has long been recognized that organizations are seldom capable of controlling all of the resources which they require (Levine and White, 1961; Litwak and Hylton, 1962). An interorganizational division of labor can develop in which the participating organizations specialize by providing a particular service in return for a particular resource which they need (Aldrich, 1979). Each organization becomes dependent upon the other in this type of situation. Organizations tend to resist dependence while attempting to make other organizations dependent upon them (Benson, 1975). As will be seen below, interlocking boards are a special case of resource interdependency (Aldrich, 1979; Burt et al., 1980). While they may reduce evironmental uncertainty for the organization's involved, board interlocks tend to institutionalize dependence relationships.

Even so, it is often unclear what the direction of resource flows means in terms of interdependence. On the one hand, a great outflow of a resource like money, for

example, could indicate great dependence since the organization involved would appear as having to buy needed goods or services. On the other hand, money outflow could make other organizations more dependent upon the organization in question if this is their only source of funds. The exact meaning of resource interdependence in any given context, therefore, requires a comprehensive understanding of the overall interorganizational patterning.

Measurement

a. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al., 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same State agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of other community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical variable measures at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of the Early Childhood Development Agency data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: RESOURCE DEPENDENCE

Definition: In a pair-wise relationship, resource dependence refers to the extent to which the focal agency needs the member agency and the member agency needs the focal agency to achieve their individual goals.

Data collection: Data were collected by means of both interviews and questionnaires. The directors of the agencies first completed a "focal agency" interview schedule which was administered by the research staff. This schedule contained a series of questions about relations with four organizations which constituted the core child care network in each respondent's county: The Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, respondents were asked to describe their agency's

relationships with three to seven other agencies with which they had been directly involved in some way during the preceding 6 months. Thus, these questions were asked about the agency's relations with each of 7 to 11 other agencies. In all, complete data were available for 133 dyads.

After the directors of the focal agency were interviewed, a mailed questionnaire was sent to the contact persons of all organizations which the directors had mentioned in the interviews. This "member agency" questionnaire included questions which matched those of the focal agency questionnaire on key elements of the interorganizational relationship. In this way, questions regarding the relationship elicited information from both members of the dyad.

The following questions were asked to assess resource dependence.

"We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
1. In order for this other agency to attain its goals, to what extent does it need the services, resources, or support from your organization?	_____	.....	_____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

2. For what specific services, resources, or support does this other agency need your organization? Specify: _____

3. In order to attain your goals, to what extent does your organization need the services, resources, or support from this agency? _____ ..... _____

4. For what specific services, resources, or support does your organization need this other agency? Specify: _____

Computation: Responses to questions 1 and 3 were used to obtain a quantitative measure of the extent of resource dependence in each dyadic relationship. The

computations involved three steps. First, each dyad was identified by matching each focal agency's responses with the corresponding responses from each of its member agencies. Then the responses to questions 1 and 3 were summed and averaged separately for each agency. Finally, these two scores were summed and averaged to obtain a composite index of resource dependence in the pair-wise relationship. Information obtained from the open-ended responses to questions 2 and 4 provided data on the specific resources involved in each relationship, but the method of content analysis and possible scoring of these responses are not discussed by the authors.

Comments: The validity and reliability of the two items composing the resource dependence measure were assessed by a principal components analysis with an oblimin rotation solution (Van de Ven and Ferry, 1980:328-338). The authors found that the two items loaded on consensus and communication factors as well as resource dependence (alpha = .53; median r = .49 with other indices). These results are interpreted as providing only modest support for the validity and reliability of the index. The authors suggest that in future revisions of the OAI instruments, efforts will be made to improve the item composition of this index.

Intensity

Conceptualization

The level of resource investment required of the organizations involved in interorganizational relationships determines the intensity of the relationship (Marrett, 1971; Aldrich, 1979). For service organizations, the greater the number of referrals, services provided, staff support, shared facilities, and other resources, the greater the intensity of the relationship. Implicit in the consideration of intensity is the question of the relative proportion of an organization's resources that are invested in the relationship. The higher the proportion, the more intense the relationship. Van de Ven and Ferry (1980) emphasize the importance of information flows in the determination of intensity. Information is an important commodity in an interaction, and in their view, it should be treated as distinct from other forms of resources.

The more intense the relationship, the more important it is for the organizations involved. The relationships within and between organizations vary in intensity, from the casual to the crucial. The former makes little difference; but the latter can potentially consume the organization if all of its efforts are invested in the relationship and if it uses up all of its resources.

Intensity is sometimes confused with, or combined with, the frequency of interactions. This appears to be a bad mix since frequent interactions can be casual, but a really intense interaction can be infrequent. For this reason, we will consider frequency in chapter IX. Relationships in dyads, networks, and organization-sets can all vary in their degree of intensity. During a period of crisis, for example, such as that experienced in Atlanta, Georgia with the kidnapping and killing of black children in 1980-81, relationships between police agencies, levels of Government, and citizen groups were extremely intense. In a non-crisis situation, relationships will be less intense. Thus the impact of intensity can be both network-wide and organizationally specific.

Measurement

b. Van de Van and Ferry (1980)

Study description: The aims and program of research carried out by Van de Ven and his associates have been described in the section on resource interdependence. The reader is referred to that section for a complete description.

Concept: RESOURCE FLOWS

Definition: This term refers to any valued transaction between agencies, whether tangible or intangible. Tangible resources include money, office space, physical equipment, client or customer referrals, and planning activities among agencies. Intangible resource flows include consultation or technical assistance, public visibility, and goodwill or prestige.

Data collection: The means used by the authors to collect the data are described under resource interdependence. The reader is referred to that section for a complete description.

The questions which were used to assess the extent of resource flows among agencies are presented below:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

To what extent did your organization receive each of the following resources from this agency during the past six months?

	Agency 1	.....	Agency N
1. Money?	_____	.....	_____
2. Use of their staff?	_____	.....	_____
3. Client referrals?	_____	.....	_____
4. Consultation or technical assistance?	_____	.....	_____
5. Public visibility, goodwill, or prestige?	_____	.....	_____
6. Physical equipment or space?	_____	.....	_____

To what extent did these agencies receive each of the following resources from your organization during the past six months?

1. Money?	_____	.....	_____
2. Use of their staff?	_____	.....	_____
3. Client referrals?	_____	.....	_____
4. Consultation or technical assistance?	_____	.....	_____
5. Public visibility, goodwill, or prestige?	_____	.....	_____
6. Physical equipment or space?	_____	.....	_____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

Computation: Only the focal agency responded to these questions. The responses to the two sets of questions were summed in order to assess the extent to which each resource flows to and from the focal agency and each of the other agencies. In this way, the relative amount of resources flowing to and from the focal agency and each of the other agencies could be compared.

Comments: In the initial pilot study, the authors attempted to use ratio response scales for each question, rather than the extent scales. In this initial study, an attempt was made to ask, for example, about the dollars received or sent, number of days of consultation, or number of clients received or sent between the agencies. Van de Ven and Ferry (1980:326) report, however, that respondents could not answer these questions. As a result, the extent scale was used. The authors acknowledge that the extent scale does not provide an absolute indicator of resource flows, but that the pilot study respondents stated that their responses to the extent scale were a fairly accurate reflection of the amounts of each resource that they transacted with each agency **relative** to other agencies in their set. Thus, the extent scale enabled the authors to elicit information concerning the comparative levels of resource transactions in each organization set. However, no quantitative information concerning the reliability and validity of these measures is provided.

b. Klonglan and associates (1976)

Study description: The purpose of this study was to construct a cumulative scale of the intensity of relations among agencies and to determine if the intensity of relations among agencies varies according to whether or not they are State, district, or county-level organizations. The data were gathered from 156 State, district, and county-level units of 35 health-related organizations in a midwestern State in 1969.

Concept: INTENSITY

Definition: Intensity is defined as an ordinal continuum of forms for resource attainment that represents increasing involvement with organizations in the task environment.

Data collection: Data were collected from the highest paid administrator in each of 156 units (it is not clear whether interviews or questionnaires were used). The administrators were asked to reply to each of the questions in terms of 18 contact organizations in their task environment and geographical area. The scale was thus adminitered 2,808 times (156 X 18); there were 2,700 usable observations.

The following questions were asked to assess the intensity of relations between each agency and the other contact organizations in its task environment:

	Agency 1	....	Agency 18
1. As far as you know, are there any of these other organizations in this state, area, or county?	YES / NO	....	YES / NO
2. Are you acquainted with the director or person in charge of each of these agencies?	YES / NO	....	YES / NO
3. Have you met with the director of each of these organizations at any time during the past year to discuss the activities of your respective organizations?	YES / NO	....	YES / NO
4. Is your organization on each of these other organization's mailing list to receive newsletters, annual reports, or other information? OR: Are each of these other organizations on your organization's mailing list to receive any of your newsletters, annual reports, or other information releases?	YES / NO	....	YES / NO
5. Has your organization shared, loaned or provided resources such as meeting rooms, personnel, equipment or funds to each of these other organizations at any time during the last three years? OR: Has each of these other organizations shared, loaned, or provided resources such as meeting rooms, personnel, equipment, or funds to your organization at any time during the last three years?	YES / NO	....	YES / NO
6. Does anyone from your organization or each of these other organizations including staff, board members, or members serve on boards, councils, or committees of the other organizations?	YES / NO	....	YES / NO
7. Within the last three years, has your organization worked jointly in planning and implementing any specific programs or activities with each of these other organizations?	YES / NO	....	YES / NO

	Agency 1	....	Agency 18
8. Does your organization have any written agreements with each of these other organizations pertaining to personnel commitments, client referrals, procedures for working together, or other joint activities.	YES / NO	....	YES / NO

Computation: The response from each agency director to each of the questions regarding his organization's relationship with each of the other 18 agencies was scored according to a yes/no format. A yes was given a value of (1), and a no was given a value of (0). Since the authors were interested in building a scale of interorganizational intensity, the data were analyzed by Guttman scalogram procedures.

Comments: The results of the study indicated that these eight items did conform to a cumulative Guttman scale within county, district, and State agency samples. Both the coefficients of scalability and reproducibility met acceptable criteria at each level. The implication is that these items strongly measure a unidimensional scale of intensity. It is clear, however, that intensity as referenced by these items is an omnibus measure. By encompassing a range of transactions that are usually treated as distinct measures in most studies, the scale compresses multiple items of information into a single score. Thus, it is unlikely that this scale would be useful unless an investigator was concerned with the ways in which community-level or macro-level variables impacted on the overall intensity of interorganizational relationships. Thus, if intensity was treated as a global dependent variable, this scale would be one approach to measurement. The independent variables would have to be drawn from domains other than the nature of the interorganizational relations themselves because so many items are compressed into this one measure.

Joint Programs

Conceptualization

Aiken and Hage (1968) were responsible for calling attention to the joint program as a special type of resource flow between organizations. In their usage of the concept, such programs represented substantial resource commitments and collaboration between agencies as opposed to "minor incidents" (Aiken and Hage, 1968:919) in the lives of the organizations. In most instances, such programs involved a combination of client, personnel, and financial support flows. Some had been in existence for over 20 years. Aiken and Hage found that joint programs were of particular importance to the health and welfare organizations they studied. They also noted that such programs tended to foster other joint activites, since the interorganizational relationships grew in scope and depth.

Joint programs involve purposive actions in regard to some issues which are jointly confronted. Joint programs can involve a particular type of client or treatment program in the services sector or a new area of exploration in the area of raw

materials, as in the case of joint ventures (Pfeffer and Nowak, 1976). The important difference between joint programs and other forms of interaction is the fact that the actions are purposive and not simply a reaction to environmental pressures.

In more recent studies, there has been a tendency to relax the Aiken and Hage criteria for identifying joint programs. Mulford and Mulford (1980), for example, use the term **joint program** with reference to any community activity that an organization has helped to organize, promote, or encourage. In this formulation, the concept of joint program becomes indistinguishable from a cooperative relationship and tends to lose its high intensity connotation. A similar use of the term can be found in the work of Zober (1979). Although we present a measure for both usages of the term, we prefer to treat the joint program concept in its original form and to reserve the concept of cooperation for separate discussion elsewhere in this sourcebook (see chapter IX).

Measurement

a. Aiken and Hage (1968)

Study description: The purpose of this study is to assess the relationship between the degree of interdependence among agencies and the structural characteristics of these agencies. In particular, the aim is to explore the relationship between the number of joint programs among agencies and types of structural relations which exist within the participating agencies. The study took place in a large midwestern metropolis in 1967. Sixteen organizations which provided rehabilitation, psychiatric services, and services for the mentally retarded were studied.

Concept: ORGANIZATIONAL INTERDEPENDENCE

Definition: No explicit definition of organizational interdependence is provided, but it refers to relationships between agencies which involve the exchange of some resource and which may be both cooperative and conflictual.

Data collection: Data were collected by means of interviews with agency directors. Although department heads and staff in these agencies were also interviewed, only the directors were asked to provide information about their agency's interdependence with other agencies. The number of joint programs the agency had with other agencies was used as a measure of organizational interdependence. The head of each agency was asked to list every joint program in which his organization had been involved in the past 10 years, whether terminated or not. A profile of each program was obtained, including the name of paticipating agencies, goals of the program, number and type of clients or patients involved, and source of funds and other resources in the program.

Computation: A simple count was made of the programs in which each agency was involved. Only existing programs and those which involved the commitment of resources by all participating agencies were included. The number of such programs then became the agency's score on this variable.

Comments: The measure provided by Aiken and Hage is one of the most stringent measures of joint programs in the literature. Their requirement that the program be ongoing and involve the commitment of resources to the program by **all** involved parties excludes a variety of relationships which might otherwise be termed joint programs. In their view, joint programs are more intense and qualitatively different from other types

of relationships. It is perhaps worth noting that whereas Klonglan et al. (1976) view joint programs simply as one element of the intensity of the relationship, Aiken and Hage view such programs as distinctively different from other relationships and as an important indicator of organizational interdependence. Although no statistical assessments are made, the authors report that the reliability of this measure is good.

b. Zober (1979)

Study description: The purpose of this study is to assess the extent of coordination and conflict among agencies dealing with problem youth. In particular, an exchange framework is used in order to discover the factors which influence the existence of joint programs and written agreements among such agencies. The study was carried out in a midwestern community which, for study purposes, included a small suburban area and the county seat, located approximately 10 miles away. On the recommendation of the director of an agency concerned exclusively with delinquent youth, 17 organizations were selected. The study focuses on the 136 dyadic relations between these organizations.

Concept: JOINT PROGRAMS

Definition: No explicit definition of joint programs was provided, but it refers to a type of cooperative behavior which involves decisions by the interacting organizations to formally work together.

Data collection: The data were collected by means of structured interviews with the director and the "boundary person" in each organization. The boundary person was defined as the individual in the organization who had the most frequent contact with the other organizations in the study. The following questions were asked to assess the number of joint programs between the organizations:

1. "Within the last three years has your organization worked jointly with each of these other organizations in planning and implementing any specific service or activity?"
2. "Does your organization have any written agreements with each of these other organizations pertaining to specific programs or activities, personel commitments, client referrals, procedures for working together or any other joint activity?"

Computation: Each organizational respondent was asked the above 2 questions about their relations with each of the other 16 organizations. The responses from both respondents in each organization were combined so as to yield a single organizational response to the above questions. The unit of analysis for the author is the dyad. The author computed a score for each dyad in the following way. If either or both of the organizations gave a "yes" response to a question, a score of 2 was given to the dyad; if each of the agencies gave a "no" response, a score of 0 was given. The scores for the two questions were then summed. Thus, a score of 4 for the dyad means that at least one joint program accompanied by at least one formal agreement was present; a score of 2 means that at least one joint program or one formal agreement was present, and a score of 0 means that neither was present.

Comments: The two questions which Zober used address different levels of relationships among agencies. The second question, in fact, might be viewed as an

indicator of the formalization of the relationship. While the first question merely asks about the existence of some sort of relation among the agencies, the second question asks about relations of a much more specific type. The author had intended to combine the responses to the two questions. However, it was found that there was a relatively low degree of correlation between responses to the two questions (r = .20). The author then decided to use the two items as separate indicators of joint programs. However, given the fact that the two questions may tap very different levels of relationships between agencies, as suggested above, and the empirical independence the author found, we suggest that only if the answer to the first question is affirmative should the second question be asked at all. Otherwise, there seems little point in asking the second question as an indicator of joint programs.

Director Interlocks

Conceptualization

Interlocking boards of directors have been the focus of commentary and research for a long time. Pennings (1980) notes that U.S. Supreme Court Justice Louis Brandeis warned in 1913 that such interlocks contained many evils, such as the suppression of competition. Pennings goes on to note that contemporary analyses of interlocks run the gamut from analyses of board interlocks as the means by which elites maintain societal control to analyses of the manner in which organizations attempt to control uncertainties by such interlocks. There is a large volume of literature on this topic which Pennings covers well, and it will not be repeated here.

Director interlock refers to a situation in which an officer or director of one organization is a member of the board of directors of another organization. Another form of interlock is when members of two organizations are on the board of a third organization (Burt et al., 1980). Burt et al. (1980) and Pennings (1980) point out that interlocks are a means by which organizations can attempt to manage uncertainty in their environments. Interlocks provide access to resources and can influence decisions. Aldrich (1979) notes that there are instances in which interlock occurs because an organization demands representation on another organization's board, thus lowering the autonomy of the latter organization. Hage (1980:95) suggests, however, that the actual power of boards of directors is quite limited. The power of a board rests in its ability to ratify or defeat what the chief executive officer and his or her administration propose to do. Quite frequently, the executive officer and the administration have greater knowledge than members of the board and can thus control the situation. At times of crisis, however, boards of directors are very important since they can remove the top administrative officers. In our view, the power of boards of directors is an empirical issue. They can be viewed as simply another type of resource flow, which they probably are in most cases, or as a means of elite domination of organizations, which they probably are in a limited number of cases.

In order to understand the consequences of interlocks on boards of directors, Pennings' (1980:188-191) findings will be summarized. He found extensive patterns of interlock. Of the 797 largest American business firms, all but 62 had one or more interlocks with the remaining 735 organizations. Financial firms were disproportionately represented in interlocks. Interlocks were more common in concentrated industries where most monopolies exist in the first place. Financial firms avoided interlocks with firms that appeared risky, instead seeking interlocks with those

that are not risky. Well-interlocked firms were found to have greater economic effectiveness. This was particularly the case with firms that rely on equity financing which were capital intensive. The relationship between interlocks and economic effectiveness was strongest for effective organizations. Apparently, financial firms do not want to get involved with operations that are perceived as performing poorly. Pennings views these patterns of interlocks as persuasive attempts by financial firms to enhance their position with solvent firms that will be reliable customers for loans, bonds, and other forms of debt. It is a technique by which financial firms acquire good customers.

Pennings' findings are hardly radical, but are in keeping with what we understand about the ways organizations seek to acquire resources and enhance their position in their environment. It should be stressed that organizations in the public sector also engage in the same kinds of activities, through boards of trustees, advisory boards, and the like. Zald (1969a) demonstrated the importance of such boards for the YMCA. An examination of the boards of any college or university would reveal similar linkages into important segments of the organization's environment. Provan et al. (1980) have shown the importance of board interlocks through the operation of the United Way.

Director interlocks are a means by which the resources important to organizations flow between organizations. They are separately identified here because they may be hidden from analyses at the level of official transactions between organizations. Board interlock is also an additional resource for the organizations involved. Any serious effort at understanding interorganizational relationships should examine the board memberships of the interacting parties, whether in dyads, sets, or networks.

Measurement

a. Provan, Beyer, and Kruytbosch (1980)

Study description: The purpose of the study is to investigate the power relationships between the United Way and a number of human service agencies which were affiliated with it. In particular, the study focuses on the power relationships between the United Way and each of these agencies in terms of each agency's linkages with elements of the community on which the United Way depends for its resources. The general hypothesis is that by maintaining links with important community elements, an agency can decrease its dependence on the United Way and also increase its power relative to the United Way. The study took place in a large metropolitan area in the northeast. A total of 46 human service agencies which were affiliated with the United Way participated.

Concept: DIRECTOR INTERLOCKS

Definition: No explicit definition of director interlocks is provided, but the concept refers to the frequency with which members of the board of directors of one agency also serve on the board of other agencies.

Data collection: Data were collected by both interviews with agency directors and staff and from agency and United Way records. One respondent per agency was interviewed. It is not clear whether this information was obtained through interviews or from agency records.

Computation: Director interlocks were measured in two ways. First, the number of linkages between an agency's board and the boards of all other agencies affiliated

with the United Way were counted. An agency scored on this measure each time one of its own board members was also represented on the board of another United Way agency. Thus, an agency would receive a score of 3 if: one of its board members was on three different United Way agency boards, three of its board members were each on the board of one other agency, or some combination of the above criteria. The second measure was the number of board members from each agency who also served on the board of directors of United Way.

Comments: The measures provided by Provan and his associates provide a simple, straightforward means of assessing the extent of director interlocks in a relatively bounded set of agencies. Since the set of organizations studied was rather small, and since the set was fairly specialized and homogeneous (the agencies were selected because each received at least some part of its funding from United Way), these procedures are a satisfactory way of measuring director interlocks.

Certainly other measures of director interlocks have been proposed (Burt, 1980; Pennings, 1980). These measures attempt to distinguish various **types** of director interlocks, and are usually applied in large networks of organizations. Computationally, these measures rely on complicated mathematical techniques and yield more information than a simple count of director interlocks. When one is interested in more than a simple count of interlocks these other measures may be more appropriate. For example, the first of Provan's measures does not distinguish between an agency having two board members on the board of one other agency, or one board member on the board of two other agencies. These two cases may have different implications for the level of influence one agency has on other agencies. If one wants a measure attuned to such distinctions, the more elaborate measures presented in Burt (1980) and Pennings (1980) are more appropriate.

VIII

TRANSACTION STRUCTURES

Interorganizational relationships are interaction processes between organizations and within networks and sets. Our presentation will build on Marrett (1971) and Aldrich's (1979) formulations of the critical dimensions of interorganizational relationships. In this chapter, we will note how the interactions can be structured and then turn to the transaction processes themselves in the following chapter.

Interaction Formalization

Conceptualization

We have already noted that formalized agreements among organizations can govern their interrelationships. Another aspect of formalization that can structure interactions is the presence of an intermediary organization which coordinates or controls interorganizational interactions. Community Decision Organizations (Warren, 1967) and interagency coordinating councils (Mott, 1968), represent the type of formalization under consideration here. Councils of Churches, Chambers of Commerce, Welfare Boards, and other such mediating and coordinating organizations serve to structure the relationships among organizations. As Van de Ven and Ferry (1980) suggest, the power of these formalizing agencies can be more or less binding so it is important to consider the degree of interaction formalization. In some cases, the intermediary organization's decisions are binding, while in other cases they are merely advisory. This variation can be seen in Pfeffer and Long's (1977) analysis of organizations affected by the United Fund. They found that the power of the United Fund was inversely related to the capabilities of the member organizations to obtain funds from alternative sources. Those agencies which were highly dependent upon the United Fund had their interactions more formalized and controlled than those with less dependence.

Measurement

a. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al., 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same

State agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical variable measures at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of the Early Childhood Development Agency data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: COMMITTEE FORMALIZATION

Definition: The formalization of interagency committees refers to the extent to which the relationship is mediated by a standing committe which follows standardized procedures and makes decisions considered to be binding on the agencies involved.

Data collection: The data used to construct this measure were obtained only from each focal agency. The directors of the Early Childhood Development Agencies completed a "focal agency" interview schedule which was administered by the research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents selected and answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months. Thus, the questions were asked about the agency's relations with each of 7 to 11 other agencies. In all, complete data were available on 133 dyads.

The following questions were asked to assess the extent of committee formalization:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

		Agency 1	.....	Agency N
1. Has any kind of interagency committee or group been established to coordinate activities between your organization and this agency?	YES	_____	.....	_____
	NO	_____	.....	_____

	Agency 1	.....	Agency N

If YES, please answer the following:

2. Is this an ad hoc or standing committee?

Ad Hoc	_____	.....	_____
Standing	_____	.....	_____

3. To what extent is this committee formalized with agendas, minutes, etc. _____ ..... _____

4. To what extent are the decisions made by this committee binding upon your organization and this agency? _____ ..... _____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

Computation: The first of the above questions acted as a filter; only if this question was answered in the affirmative for a particular agency were the remaining questions asked for that agency. Questions 1 and 2 were scored in 0/1 format. If the committee was ad hoc it was scored (0) and if standing it was scored (1). Responses to questions 3 and 4 were scored on the associated 0-5 scales. The focal agency scores on each question were summed and averaged for each member gency. This average score was used as an index of committee formalization. The higher the score, the more formalized the relationship; the lower the score, the less formalized the relationship.

Comments: The items in the committee formalization index were included in a factor analysis in order to assess their validity (Van de Ven and Ferry, 1980:328-338). Using a principal components analysis with an oblimin rotation solution, it was found that the items in this index loaded quite highly on 1 factor but not any other of the 10 factors in the analysis. This indicates that the items in the index vary together and seem to measure the same concept; in addition, they are **not** confounded with other concepts and measures. The authors thus claim that the validity of this index is good. The reliability of the items in the index are also argued to be adequate. An alpha coefficient in the .70 - .90 range was predicted; the observed alpha coefficient was .94. On the basis of this, the authors claim that perhaps there is a little too much redundancy among the items in the index. However, the median correlation of the index with other indices in the study was only .24. This leads the authors to conclude that the reliability and validity of the items in the index are adequate.

Interaction Standardization

Conceptualization

Marrett (1971) and Aldrich (1979) identify two aspects of standardization. First is

the degree to which resource interchanges are standardized. If organizations agree to exchange uniform or homogeneous types of clients or personnel, high standardization is present. Low standardization would occur when the units are heterogeneous. High standardization would result in more routinized interactions, with less time and energy devoted to sorting and classifying the units which are exchanged or transferred.

The second form of standardization involves the procedures used in the transactions. Low standardization would be represented by procedures based on a case-by-case decision process, while high standardization would be exemplified by the use of routinized procedures. When high standardization is present, there are likely to be forms and checklists which are perfunctorily filled out as the transaction occurs. Aldrich (1979) suggests that larger and more complex organizations are more likely to standardize their transactions than are smaller and less complex organizations. A common example of unit standardization is the assignment of academic credits for students transfering from a community college to a 4-year college. The large college or university is more likely to have developed procedural standardization for determining transferable credits. The credits themselves are examples of unit standardization. Similarly, the routinized discharge summaries used by many State mental hospitals to refer clients to outpatient or aftercare clinics is another instance of this type of standardization.

Measurement

a. Whetten and Szwajkowski (1978)

Study description: The purpose of this study is to address a number of methodological issues in organizational analysis and to empirically evaluate some of the hypotheses postulated in the interorganizational literature. Specifically, the authors demonstrate that the manner in which samples of organizations are selected and the way in which data are aggregated are likely to effect the results researchers obtain. The data used in this study were obtained during the summer of 1973 in 25 communities in New York State, excluding New York City. Responses from 86 manpower and social service agencies regarding their relationships with up to 8 other manpower and service agencies were collected.

Concept: INTERACTION STANDARDIZATION

Definition: Standardization is defined as the fixedness of the units being exchanged and of the rules and procedures specifying how they are to be exchanged.

Data collection: Interviews were conducted with representatives from each of the agencies. In all, 324 respondents were included (an average of 3.77 per agency). These respondents provided information on a total of 538 distinct interorganizational relationships (an average of 6.25 different relationships for each of the 86 agencies).

The extent of standardization of the interaction was assessed by the following question:

"Is your interaction with each of these other agencies on a routine or case-by-case basis?"	Agency 1	....	Agency 8
1. Routine	_____	....	_____
2. Mixed	_____	....	_____
3. Case-by-Case	_____	....	_____

Computation: The relationship between the focal agency and each of the other agencies was assigned a score on the standardization variable ranging from 1 to 3. This permitted a score to be obtained for the agency's relation with up to eight other agencies; in addition, the scores for each of the relationships could be summed so as to yield one standardization score for the agency relative to all of the other agencies in the community. Since a primary aim of the authors was to compare different computational and data analysis procedures, results are reported separately, based on the responses of directors, the responses of lower-level staff, and pooled responses from both groups.

Comments: The Whetten and Szwajkowski study is an attempt to compare various strategies of data analysis as well as the extent to which hypotheses proposed in the literature are supported with these data. Although their specific findings are not our concern here, the authors found that, in general, the manner in which one aggregates the data may indeed influence the conclusions one draws. The particular measure of standardization they employ assesses **procedural** standardization, rather than **unit** standardization. That is, this measure focuses on the extent to which the procedures used to exchange resources are fixed or occur as conditions demand. This measure is relatively straightforward in assessing this type of standardization. No information about validity and reliabilty is provided. The second type, unit standardization, is not addressed by these authors and is seldom measured at all in the literature.

IX

TRANSACTION PROCESSES

The structure of interorganizational relations emcompasses the forms through which interaction occurs. The dynamics of these relationships is what is meant here by transaction processes. In this chapter, we present eight concepts and their associated measures which have been used to index the transactions among organizations. These concepts are: importance, frequency, reciprocity, power, cooperation, conflict, conflict resolution, and coordination.

Importance

Conceptualization

Interorganizational relationships vary in their significance for the interacting organizations. The idea of importance contains two elements. The first is the importance of another organization to the work or welfare of a focal organization, while the second is the importance of the particular interaction itself. In either case, importance is a major contributor to the generation and maintenance of interorganizational relationships. Hall et al. (1977, 1978); Klonglan and Paulson (1971); and Schmidt and Kochan (1977) have focused on this dimension. The work of Hall and his associates indicates that the importance of interaction was a strong predictor of the frequency of interaction, and that important interactions were likely to lead to formalized agreements among the organizations involved. Importance in these studies has been examined at the dyadic level and not at the set or network levels, but the pattern would appear to be the same. If all mental health organizations in a network perceived that the other organizations and their interactions were important, for example, the transactions would take place with greater frequency.

Measurement

a. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interaction which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: IMPORTANCE OF CONTACTS

Definition: No explicit definition of the importance of contacts is provided, but the concept refers to the relevance and contribution of other agencies to the focal agency's goal achievement.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure the bases of contact:

> "How important are the contacts with each of these organizations to the work of your own organization? (Choose the best answer for each other organization and place it on the appropriate space, leave the line for your own organization blank)"
>
> 0 = no contact
> 1 = very important
> 2 = moderately important
> 3 = slightly important
> 4 = not at all important
>
> ____ County Juvenile Court
> ____ County Department of Social Services, Child Welfare Division
> ____ County CMHC
> ____ County Probation Service
> ____ County Detention-Shelter Care
> ____ County Police Department, Juvenile Division
> ____ City Public Schools, Student Services Department

Computation: Although the unit of analysis in this study is the dyad, importance scores are based only on information obtained from one agency rather than a composite of the responses from each agency pair. Each of the core agencies rated their contacts with each of the other agencies according to the above scale. Since there were multiple respondents from each organization, a mean response was calculated and used as the organization is score for importance of contacts with each of the other agencies. A score of 4 on this variable would indicate a lack of importance, while a score of 1 would indicate a very important relationship.

Comments: This measure attempts to assess not only the importance of each of the core agencies to one another but also the importance of the relationships among these agencies. In particular, the measure addresses the extent to which the relations among the agencies are relevant for each agency's achievement of its goals. The measure, however, does not make a distinction between a case in which another agency is important because it facilitates the focal agency's achievement of its goals and a case in which another agency is important because it hinders the focal agency's achievement of its goals. Given this ambiguity, however, the measure does permit an assessment of the importance of agency relationships to each of the agencies involved. No information about validity and reliability is presented in the article.

Frequency

Conceptualization

As noted above, frequency of interaction and intensity of interaction are sometimes used interchangeably in the literature. We view frequency as a component

of the transactions among organizations, with intensity as a component of the resource flow among organizations. While importance and frequency are closely associated, there is no necessary relationship between the two processes. As Aldrich (1979) points out, a once-a-year budget meeting is much more important than weekly casual contacts. In general, however, important relationships are frequent relationships. Hall et al. (1978) found that frequent interactions were related to high levels of both coordination and conflict. This suggests that important interactions tend to encompass more elements of the organizations involved than do frequent interactions. Marrett (1971), Aldrich (1979), and Van de Ven and Ferry (1980) all suggest that there is a strong linkage between frequency and intensity. Frequent interactions contribute to heightened resource flows. It also should be noted that interactions can have high or low frequency on the basis of voluntary exchange, formal agreements, or mandates.

Measurement

a. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interactions which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: FREQUENCY OF CONTACT

Definition: No explicit definition of frequency of contact is provided, but it refers to the extent of contact between the focal agency and each of the other core agencies.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure the frequency of contact:

> "How often are contacts made between your agency and each of the following ones? (Choose the best answer for each other organization and place it in the appropriate space, leave the line for your own organization blank)"
>
> 0 = no contact
> 1 = a few times a year
> 2 = about once a month
> 3 = about once a week
> 4 = once a day
> 5 = almost hourly
> 6 = continually
>
> ____ County Juvenile Court
> ____ County Department of Social Services, Child Welfare Division
> ____ County CMHC
> ____ County Probation Service
> ____ County Detention-Shelter Care
> ____ City Police Department, Juvenile Division
> ____ City Public Schools, Student Services Department

Computation: Although the unit of analysis in this study is the dyad, frequency scores are based on information obtained from each agency rather than a composite of the responses from agency pairs. Each of the core agencies rated their contacts with each of the other agencies according to the above scale. Since there were multiple respondents from each organization, a mean response was calculated and used as the organization's score for frequency of contact with each of the other agencies. A high score on this variable indicates a high frequency of contact.

Comments: This measure is a straightforward assessment of the frequency of contact in an dyadic relationship. In conjunction with other information concerning the importance of the contacts and the types of contacts, it can provide a comprehensive profile of relations among agencies. Measures such as this one yield information which is, of course, shaped by the response categories provided. The final three categories in this measure focus on very frequent contacts. Researchers using this measure should decide if such response categories are meaningful or appropriate for the relationships they intend to study. Finally, since these authors used single measures of each concept, validity and reliability may be undesirably low.

b. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al., 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same State agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of other community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical variable measures at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of these data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: FREQUENCY OF COMMUNICATIONS

Definition: Frequency of communications refers to the number of times during the past 6 months that messages about the nature of the relationship or units of

exchange were transmitted between the focal agency and the member agency.

Data collection: Data were collected by means of both interviews and questionnaires. The directors of the agencies first completed a "focal agency" interview schedule which was administered by research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents selected and answered the questions for three to seven other agencies with which they had been directly involved in some way during the past 6 months. Thus, these questions were asked about the agency's relations with each of 7 to 11 other agencies. In all, complete data were available on 133 dyads.

In the assessment of frequency of communications, the following questions were asked of the focal agency respondent:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
1. How frequently were letters or written reports of any kind exchanged with this agency during the past six months?	_____	.....	_____
2. How frequently were personal face-to-face discussions held with people in this agency during the past six months?	_____	.....	_____
3. How frequently were telephone calls made with this agency during the past six months?	_____	.....	_____

Not Once	1-2 Times	About Monthly	About Every 2 Weeks	About Weekly	About Daily	Several Times Daily
0	1	2	3	4	5	6

4. Indicate the number of times that the interagency committee or group has met during the past six months.

_____ Number of times

Computation: Each of these questions was answered only by the focal agency respondent. Questions 1 through 3 were scored according to the scale after question 3. The relationship between the focal agency and each of the member agencies was given a score which could range from 0 to 6. The number of meetings recorded as a response to question 4 became the score for that variable.

Comments: Van de Ven and Ferry (1980) report an assessment of the dyadic version of these measures. Using a principal components factor analysis with an oblimin rotation solution, the authors found that the first three frequency of communication items loaded highly on only one factor. The fourth item, the frequency of interagency committee meetings, loaded highly on a different factor, the committee formalization factor. The results of this analysis suggest that the first three items are relatively independent of other measures in the OAI.

The reliability of the four items composing the frequency of communications index was also assessed. The authors expected an alpha coefficient in the .35-.53 range. The value of the observed alpha was .45, suggesting an acceptable level of reliability. In addition, the median correlation between the index and other indices in the OAI was .33, which indicates an acceptable level of discriminant validity. On the basis of these results, the authors argue that the reliability and validity of this index are adequate.

Reciprocity

Conceptualization

Reciprocity refers to the symmetry of the transactions among organizations. In a dyadic relation, resources can flow to both parties equally or in an imbalanced fashion. Baty et al. (1971), for example, have examined faculty personnel flows among graduate schools of business. They found that the flows were not reciprocal, with prestigeous schools of business sending out more faculty members in the form of new Ph.D.s than they received. In this case, the lack of reciprocity contributed to the power of the sending schools, since the less powerful schools were dependent upon the more powerful.

When there is mutual dependence, organizations will attempt to maintain reciprocal relationships (Galaskiewicz, 1979). If either organization perceived an imbalance in the relationship, the interactions might be difficult to sustain (Levine and White, 1961; Levine et al., 1963).

Reciprocity is also a central concept at the network level of analysis (Burt, 1980; Galaskiewicz, 1979).

Measurement

a. Maas (1979)

Study description: The purpose of this study is to develop and test a theory of organizational power among public agencies. Differential power relations among agencies are viewed as the result of differences in the amount and types of resources controlled by each, as well as their capacities to acquire and possess such resources. The author used data originally collected in a study of relations among agencies concerned with the use and development of natural resources. Twelve agencies located in five counties in Northeast Iowa in 1976 were studied. The agencies in the study all had at least county-wide responsibility and had programs which were concerned with the use of natural resources.

Concept: OBLIGATIONS INCURRED

Definition: Obligation incurred refers to the extent a negative balance is experienced in the reciprocity of exchange relations or the extent obligatory debts are accumulated.

Data collection: The data reported in this study were obtained through personal interviews with 39 top administrators in the 12 agencies. The following question was used to measure obligations incurred:

> "In the past twelve months, how many times have you loaned or provided funds, facilities, or personnel to each of the following agencies?"
>
> ____ Agency 1
> ____ Agency 2
> .
> .
> .
> .
> ____ Agency N

Computation: Each agency respondent reported the number of times the agency had loaned or provided these resources to each of the other agencies in the set. Then, for each dyad, the number of times resources were provided for another organization by the focal agency was subtracted from the number of times this other agency provided these resources for the focal agency. These difference scores represent the net inflow and outflow of resources between the focal agency and each of the other agencies. Finally, each agency's difference scores were summed to obtain a composite measure for each agency.

Comments: This measure illustrates the way reciprocity between agencies can be measured by the mutuality of resource flows. Reciprocity denotes relative balance or equivalency in an interorganizational relationship, and its measurement involves computation of **differences** between pair-wise agency responses rather than sums or additive scores. Since the unit of analysis in this study is the organization-set, Maas' procedures yield a single difference score for each agency representing its extent of reciprocity with all other agencies in the set.

However, there is a major construct validity problem with the way Maas uses this measure in her study. She purports to measure "debts incurred." To do this properly, it is necessary to obtain information on the monetary value of resources exchanged. A single transfer of a large amount of money from agency A to agency B, for example, would incur a debt for B that far exceeds the transfer of more frequent but less valuable services from B to A. Since Maas' measure relies only on volume or frequency of exchange, A would be rated as having a greater debt to B when the opposite is the case in this example.

The problem of calibrating the monetary value of resource flows is not unique to the Maas study. Van de Ven and Ferry (1980:326) found that their respondents could not estimate the exact dollar value of resource exchanges. These authors recommend the use of "extent scales" rather than exact dollar estimates. An alternative approach is to abstract information from agency budgets and contracts. This approach has been used successively by Rieker et al. (1976) in a study of the interorganizational relationships among component agencies of Community Mental Health Centers. It is reliable for

formal exchanges but tends to underestimate the value of informal and ad hoc exchanges.

Power and its Correlates

Conceptualization

Of all the interorganizational transaction processes, power in its various guises has received the most attention. Power in an interorganizational situation is equivalent to that in the intraorganizational situation--the ability of one party to have another party do what the other party would not otherwise do (Dahl, 1957). The power variable has been used in a variety of ways, and we will try to disentangle the various approaches that have been suggested. Most theorists would now argue that power is rooted in the differential control over resources and the needs of actors. Building on Emerson's (1962) work, one party is likely to get compliance from another to the extent that the latter is dependent upon the former for the resources it needs. Power, then, lies in asymmetrical dependency relations.

Following Blau (1964) and Emerson (1962), Aldrich (1979) has examined the manner in which administrators of social service organizations deal with the power dependency issue. Four alternatives are suggested. First, an organization can build upon its own resource base and thus reduce dependence. Second, the organization can seek alternative sources for needed resources, thus limiting dependency. Third, an organization could use coercive force to make the other organization surrender resources without complying with its demands. Fourth, the organization can essentially withdraw from the situation by modifying its goals or technologies. If these alternatives are not available or not chosen, dependency will continue with the organization having less power than the organization with which it is interacting.

It is important to recognize that power, viewed as the potential to obtain compliance from another, is not limited to control over economic resources (Zald, 1969c; Burt, 1977a). Using a modification of French and Raven's (1968) schema, Halpert (1974) identified expert, referent, reward, coercive, legal, and community bases of interorganizational power. The differential access to or possession of resources in each sphere was seen as the source of power in interorganizational transactions.

The power of an actor is also a function of the actor's position within relational systems. Cook (1977), Benson (1975), and Galaskiewicz (1979) argued that one's power is enhanced if one is central in interorganizational resource networks. Centrality has been measured in several ways, yet essentially, central actors are those upon whom many actors are dependent for resources. Centrality increases the power of actor **i** vis-a-vis **j**, not so much because **j** is dependent upon **i**, but because all actors **k** (upon whom **j** depends) are dependent upon **i**. Actor **j** may not even be directly related to **i**, yet the strategic position of **i** vis-a-vis all **j's** trading partners, increases the power of **i** over **j**.

As Aldrich (1979) notes, in almost every interorganizational network, one finds some organizations more central than others. Network centrality can arise out of an emergent process of negotiation and bargaining or as a result of a preexisting division of labor. Exchange theory formulations can be applied to the first type of centrality. As interorganizational exchanges occur over time, a structure of power-dependence relations is created whereby one or more organizations can mediate the other organizations' access to resources (Cook, 1977). Once established, this structure of

dependences will exert a continuing influence on relationships among network members. In the second type of centrality, power relationships are determined by the interagency division of labor in advance of any interactions. The role of the juvenile court vis-a-vis other agencies in the juvenile justice and welfare system exemplifies this type (Hall et al., 1977). The powers and prerogatives of the court are established by statute and common practice. Some bargaining will occur, but the centrality of the court in the interagency workflow and resultant relationships is set in advance. Organizations that are designated as information clearinghouses would have a similar power position. In general, as in the case of power within organizations, the preset hierarchy of power among interacting agencies must not be overlooked in a full analysis of interorganizational relationships.

Measurement

a. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interactions which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: POWER

Definition: The concept refers to the extent to which an agency can influence the activities and programs of other agencies.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure the agency's power:

> "If we define power as the extent to which one organization affects another organization, how would you characterize the power relationship between your organization and each of the others in regard to the handling of problem youth? (Choose the best answer for each other organization and place it in the appropriate space, leave the line for your organization blank)"

1 = my organization is much more powerful
2 = my organization is more powerful
3 = my organization is somewhat more powerful
4 = both organizations are equally powerful
5 = my organization is somewhat less powerful
6 = my organization is less powerful
7 = my organization is much less powerful

____ County Juvenile Court
____ County Department of Social Services, Child Welfare Division
____ County CMHC
____ County Probation Service
____ County Detention-Shelter Care
____ City Police Department, Juvenile Division
____ City Public Schools, Student Services Department

Computation: Although the unit of analysis in this study is the dyad, power scores are based only on information obtained from each agency rather than a composite of the responses from agency pairs. Each of the core agencies rated the power of their organization relative to each of the others according to the 1 to 7 scale. Since there were multiple respondents from each organization, a mean response was calculated and used as the organization's score on power over each of the other organizations. A high score would mean that the respondent's organization is less powerful, while a low score would mean that the respondent's organization is much more powerful than the other organization.

Comments: Power is treated in a variety of ways by researchers, both conceptually and empirically. Hall et al. (1977) treat power quite broadly; the measure does not attempt to assess different types of power or the issues over which power relationships may emerge. Since agencies have multiple relations and the agencies involved may have different degrees of power in each, a measure of power should take these multiple relationships into account. The measure proposed by Hall et al. (1977) does take these multiple relations into account, and thus provides a clearer view of one agency's power relations with other agencies than a measure which simply gives an agency an overall power score relative to the community as a whole. No validity and reliability information is reported.

Measurement

b. Galaskiewicz (1979)

Study description: The purpose of this study is to examine the structure of relations among a wide range of community organizations. In particular, the author focuses on organizations which are central in money, information, and support networks. The analysis attempts to predict the centrality of agencies from information about the agency's control of resources, technology, and dependency on the local community for resources. The study was conducted in a midwestern town located about 60 miles from a large city. The author attempted to include all industrial organizations, banks, savings and loans, newspapers, radio stations, service clubs, health agencies, high schools, welfare agencies, churches, professional associations, county offices, municipal offices, and political parties. Of the 109 organizations identified in the community, 73 participated in the study.

Concept: CENTRALITY

Definition: No explicit definition of centrality is offered but the concept refers to positions in a network of organizations which provide incumbents the greatest access to other organizations in the network.

Data collection: Data were collected by means of interviews with each organization's highest ranking officer. Representatives from 73 of the 109 organizations were interviewed. In order to measure centrality, respondents were presented with a list of the 109 organizations in the community and asked to identify those organizations to which their organizations routinely gave money, information, and support. They also were asked to identify those organizations on the list from which they received each of these same resources.

Computation: The first step was to construct three 73 by 73 asymmetric adjacency matrices, one each for money, information, and support. A "1" in a cell

denoted the presence of a resource flow, while a "0" signified its absence. In assigning these values to the cells in the matrices, a flow in a given direction between a pair of organizations was said to be present if the respondent for either organization mentioned it. Smallest space analysis was then used to obtain a visual representation of the three networks. This type of analysis maps points in a Euclidean space as a function of their estimated proximities on each criterion variable. The path distances between organizations were computed from these proximity estimates.

A centrality score was then computed for each organization in each network. This score was computed directly from the smallest space analysis solutions. This analysis locates the centroid of the space and computes the Euclidean distance from each point (organization) in the 2-dimensional solution to the centroid. Finally, a summary measure for the simultaneous centrality of the organizations in all three networks was computed. Each organization was plotted in a 3-dimensional scatterplot with the X, Y, and Z axes representing centrality scores in the information, money, and support solutions, respectively. From this scatterplot, the authors derived a summary centrality score for each organization by computing the Euclidean interpoint distance from the origin in the scatterplot to each of the plotted points.

Comments: Galaskiewicz (1979) takes a different approach to the study of power than Hall et al. (1977). Galaskiewicz identifies the **structural** position of the organization in these networks and then finds a strong correlation between position and an independent measure of an organization's reputed influence. He argues that the organization's position in this network influences its power relative to other organizations in the network, even though it may not interact directly with them. Hall, on the other hand, simply asks each agency how much influence they have over each of the other agencies in the system. An advantage of the Galaskiewicz measure is that it can take into account the organization's position in multiple resource networks and use such information to create an overall measure of the organization's position relative to the others. The mathematical procedures used enable a precise estimation of this kind. No validity or reliability information is reported, however.

Cooperation

Conceptualization

There is considerable confusion in the interorganizational research literature concerning the relationships between cooperation, conflict, and coordination. In many formulations, cooperation is treated synonymously with coordination, with conflict seen as its polar opposite. Following Warren et al. (1974), we view these as distinct processes that call for separate presentation. Here we will focus on cooperation; the other concepts will be dealt with in subsequent sections. Cooperation is a process in which organizations pursue their own goals and thus retain autonomy, while at the same time orienting their actions toward a common issue outcome (Warren et al. 1974; Mulford, 1980). Cooperation is typically viewed as a form of voluntary interaction and would be found in relationships based on exchange or voluntary agreement. Klonglan and Paulson (1971) note that cooperation can involve personnel interchange. Aiken and Hage (1968) viewed cooperation in terms of products and services for clients. The cooperation process may only require a rather small investment on the part of the interacting organizations, but it does mean that they have to take each other's actions into account.

Measurement

a. Whetten and Szwajkowski (1978)

Study description: The purpose of the study was to address a number of methodological issues in organizational analysis and to test some of the hypotheses postulated in the interorganizational literature. Specifically, the authors demonstrate that the manner in which samples of organizations are selected and the way in which data are aggregated are likely to affect the results researchers obtain. The data used in the study were obtained during the summer of 1973 in 25 communities in New York State, excluding New York City. Responses from 86 manpower and social service agencies regarding their relationships with up to 8 other agencies were collected.

Concept: PERCEIVED COOPERATION

Definition: No explicit definition of perceived cooperation is provided, but the concept is used to refer to the extent to which agency members perceive that other agencies are willing to work with them in some way.

Data collection: Interviews were conducted with representatives from each of the agencies. In all, 324 respondents were included (an average of 3.77 per agency). These respondents provided information on a total of 538 distinct interorganizational relationships (an average of 6.25 different relationships for each of the 86 agencies). Perceived cooperation was measured by means of the following question:

	Agency 1	.....	Agency N
How much cooperation do you receive from each of these other organizations?	_____	....	_____

Very Little				Very Much
1	2	3	4	5

Computation: The relationship between the focal agency and each of the other agencies important to it was assigned a score on the cooperation variable ranging from 1 to 5. This permitted a score to be obtained for the agency's relation with each of the maximum number of eight other agencies; in addition, the scores for each of the relationships could be summed so as to yield one cooperation score for the agency relative to **all** of the other agencies in the community. Since a primary aim of the study was to compare different computational and data analysis procedures, results are reported separately for the responses of directors, the responses of lower-level staff, and pooled responses from both groups.

Comments: The measure provided by Whetten and Szwajkowski focuses on cooperation in a general way. The exact referent of the concept is left to the organizational respondent to decide. Although this is not necessarily a problem, it does mean that the activities and behavior which are perceived by respondents as cooperation may not be similar. Indeed, since a number of respondents from each

organization were interviewed, such differences in what is perceived as a cooperative relationship are likely to make aggregated organizational scores for the relationship between the agency and each of the others difficult to interpret. No validity or reliability information is reported.

Conflict

Conceptualization

Interorganizational conflict is an oppositional process in which one party attempts to block or thwart the activities of another party. As Galtung (1967) notes, conflict can occur within and between social systems at the individual and collective level. Interpersonal conflict is relatively easily understood. Collectivity based conflict is more complex and refers to situations in which the organization as a whole is involved in the conflict. An example here is Sebring's (1977) analysis of university-state government interactions in which past unsuccessful encounters led to present conflicts. Conflict can take several forms in interorganizational transactions. Some conflict is regulated, as in competition, while other conflict takes place outside of a regulatory framework (Warren et al., 1974). As in the case of intraorganizational processes, conflict also can be based on power differences and domain disputes (Molnar and Rogers, 1979), or it can be based on ideological grounds. Halpert (1981) documents the manner in which police agencies are in conflict with other social service organizations, based primarily on their differing philosophies.

The correlates of interorganizational conflict are not well understood. This is due, in part, to the failure of many investigators to differentiate "frictional" versus "systemic" conflicts (Pondy, 1969). The former are relatively minor disagreements that arise as a matter of course in most interorganizational transactions, but the latter deal with fundamental issues of domain contest, division of labor, and power dependency. Warren's study of the Model Cities Program suggests that frictional conflicts are rather trivial matters that are either ironed out or ignored, but systemic conflict rarely becomes manifest due to the "live and let live" rules which often govern interorganizational transactions (Warren et al., 1974).

Another major factor that serves to blunt our understanding of these processes is a pervasive belief that conflict is something to be avoided. This belief appears to be misguided. Guetzkow (1966); Assael (1969); and Warren (1970) have all noted that conflict and its resolution can have long run benefits for interorganizational relationships. Zeitz (1980) also argues that conflict can be both system integrative and disintegrative. The resolution of old conflicts sets the stage for new conflicts in a dialectic manner. In this vein, Hall et al. (1978) found that conflict was related to interaction frequency and to interactions based on both formal agreements and mandates. They do not see agreements or mandates as the cause of conflicts, but rather interpret this relationship as being based on the fact that agreements and mandates are found in situations which are important to the parties involved. This study also found that conflict was related to power differences. In addition to noting that resource acquisition can be an important source of conflict, the study found that conflict also existed between organizations which had very different resource bases. These bases might reflect different levels of government, such as when city agencies are in conflict with county or State agencies.

Measurement

a. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interactions which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: EXTENT OF CONFLICT

Definition: No explicit definition is offered by the authors, but the concept refers to relations in which there are disputes among the participating agencies.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure the extent of conflict:

> "To what extent do disagreements or disputes characterize the relations between your organization and each of the others? (Choose the best answer for each other organization and place it in the appropriate space, leave the line for your own organization blank)"

0 = no contact
1 = to a great extent
2 = to a moderate extent
3 = to a small extent
4 = never

___ County Juvenile Court
___ County Department of Social Services Child Welfare Division
___ County CMHC
___ County Probation Service
___ County Detention-Shelter Care Service
___ City Police Department, Juvenile Division
___ City Public Schools, Student Service Department

Computation: Although the unit of analysis in this study is the dyad, conflict scores are based only on information obtained from one agency rather than a composite of the responses from each agency pair. Each of the core agencies rated the extent of conflict between their organization and each of the other organizations according to the above scale. Since there were multiple respondents from each organization, a mean response was calculated and used as the score for the extent of conflict between each agency. A high score would mean that the relationship involved little or no conflict, while a low score would mean that a high degree of conflict was involved.

Comments: The Hall et al. (1977) measure provides a dyad score for the extent of conflict between each pair of agencies. The measure is based on the perceptions of both members of the dyad and thus may provide insight into discrepant assessments of each relationship. It is important to note, however, that this measure is a **global** indicator of conflict; that is, the measure allows the respondent to report any or all of

the disagreements which may have occurred in a given relationship. In this sense, the measure provides little information about any particular conflict issue. Certainly, there are a number of types of conflict over specific issues which might be measured and which do not necessarily co-vary (Pondy, 1969). The Hall et al. (1977) measure does, however, allow respondents to focus on disagreements important to them. No validity or reliability estimates are provided.

Conflict Resolution

Conceptualization

Inasmuch as there are few "100 Year Wars" among organizations, it is safe to conclude that most conflicts are resolved. Van de Ven and Ferry (1980), drawing on earlier works by Blake and Mouton (1964), Lawrence and Lorsch (1967b), Burke (1970), and Filley et al. (1976), identified four conflict resolution techniques which take place at the interorganization level. The issues can be (1) ignored or avoided; (2) smoothed over, by playing down differences and emphasizing common interests; (3) openly confronted, with differences worked through as in the case of collective bargaining; or (4) submitted to some hierarchial power, either a higher administrative level or an outside party which is given power over the situation. Aldrich (1979) suggests two other alternatives: contracting or expanding the organizational boundary. Contraction removes the organization from some aspect of its domain, and expansion permits an organization to encompass or merge with another organization. Both actions may reduce conflict. Aldrich's formulations are particularly relevant in the competitive situation.

Conflict resolution has been found to be a major contributor to coordination (Hall et al., 1978). If this is the case, interorganizational relationships are highly complex. In the Hall study, conflict was correlated with interaction frequency and the importance of the interactions. These factors contribute to conflict, conflict resolution, and coordination. In general, then, it is impossible to understand the outcomes of interorganizational interactions without considering conflict and its resolution.

Measurement

a. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al., 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same State agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of other community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical variable

measures at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of these data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: CONFLICT RESOLUTION

Definition: No explicit definition is provided, but the concept refers to the means used by agency personnel to settle disputes which arise between their agencies.

Data collection: Data were collected by means of interviews with the agency directors. Each director completed a "focal agency" interview schedule which was administered by the research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months. Thus, these questions were asked about the agency's relations with each of 7 to 11 other agencies. In all, complete data were available on 133 dyads.

The following questions were asked to assess conflict resolution among agencies:

> "We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
1. During the past six months, how often were there disagreements or disputes between people in your agency and this other agency?	_____	.....	_____
2. When these disagreements or disputes occurred, how often were they handled in each of the following ways during the past six months:			
a. By ignoring or avoiding the issues?	_____	.....	_____
b. By smoothing over the issues?	_____	.....	_____

	Agency 1	.....	Agency N
c. By bringing the issues out in the open and working them out among the parties involved?	_____	.....	_____
d. By having a higher level manager or authority resolve the issues between the parties involved?	_____	.....	_____

Almost Never	Seldom	About Half the Time	Often	Almost Always
1	2	3	4	5

3. How well are any differences worked out at this time between your agency and this other agency? _____ ..... _____

Very Poorly	Poorly	Adequate-ly	Quite Well	Very Well
1	2	3	4	5

Computation: Van de Ven and Ferry (1980) have attempted to build instruments which can assess relations at three levels of analysis: the intraorganizational unit relations, interorganizational dyad relations, and interorganizational network relations. Procedures for computing scores for each of the above questions at the dyad and network levels are not provided by Van de Ven and Ferry (1980). As a consequence, no information regarding validity and reliability of these measures for interorganizational analysis are provided.

Comments: The measure of conflict resolution offered by Van de Ven and Ferry (1980) provides three kinds of information: an assessment of the frequency of disagreements of disputes (of any kind), methods by which these disagreements or disputes are handled, and an overall assessment of how well the disagreements or disputes are resolved by any or all of these methods. To date, the authors have reported data for this measure only at the organizational subunit level. At this level the authors note that "reporting disagreements to a higher authority" and "bringing the issues out in the open" are related to increased efficiency and effectiveness of the units involved. On the other hand, "ignoring the issues" or "smoothing them over" was negatively correlated with efficiency and effectiveness of the units. Thus, they argue that it is not the frequency of conflicts which is most important for the efficiency and effectiveness of subunit performance, but the means by which such conflicts are resolved. The frequency of use or efficacy of these devices at the dyad or network level have yet to be fully examined.

b. Hall and associates (1977)

Study description: This study investigates the degree of coordination among

organizations which deal with problem youth. The authors focus on the different forms of interaction which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2 year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: QUALITY OF CONFLICT RESOLUTION

Definition: No explicit definition is offered, but the concept refers to the extent to which conflicts between the agencies are resolved to the satisfaction of those involved.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure coordination:

> "How well are any differences between your organization and the other worked out? (Choose the best answer for each other organization and place it in the appropriate space, leave the line for your own organization blank)"
>
> 0 = no contact
> 1 = very well
> 2 = well
> 3 = adequately
> 4 = poorly
> 5 = very poorly
>
> ___ County Juvenile Court
> ___ County Department of Social Services, Child Welfare Division
> ___ County CMHC
> ___ County Probation Service
> ___ County Detention-Shelter Care
> ___ City Police Department, Juvenile Division
> ___ City Public Schools, Student Service Department

Computation: Although the unit of analysis in this study is the dyad, scores on the adequacy of conflict resolution are based only on information obtained from one agency rather than a composite of the responses from each agency pair. Each of the core agencies rated the quality of conflict resolution between their organization and each of the other organizations according to the above scale. Since there were multiple respondents from each organization, a mean response was calculated and used as the score for the quality of conflict resolution between each agency. A high score would mean that conflicts are not resolved satisfactorily, while a low score would mean that conflicts are worked out quite well.

Comments: As compared with the measure of conflict resolution provided by Van de Ven and Ferry (1980), the Hall et al. (1977) measure provides less detailed information. Whereas the former measure assesses both the extent of conflict and the particular means by which they are resolved, the Hall et al. (1977) measure simply provides information concerning the extent to which any conflicts which have arisen have been resolved by any means. Thus, this measure is a global indicator which provides no information about the particular means of conflict resolution employed. No validity or reliability information is provided.

Coordination

Conceptualization

Coordination has occupied a central position in interorganizational analyses (Rogers and Whetten, 1981). Probably most studies in this field have had coordination as an explicit or implicit dependent variable, on the assumption that interorganizational coordination was good for clients, for administrative efficiency, and for the community at large. That assumption is now under serious question (Zald, 1969a; Warren, 1973; Morris and Hirsch-Lescohier, 1978). Coordination involves a process of concerted decision making or action in which two or more organizations participate with some sort of deliberate adjustment to one another (Warren et al., 1974). A key factor here is the idea that the transactions are deliberate and involve a goal which is collective. This is a major point of differentiation with cooperation. Cooperation involves deliberate actions, but mutual or collective goals are not a prerequisite for cooperative relationships. Aiken et al. (1975) and Flaherty et al. (1978) subsume cooperation under coordination, but we prefer to keep the processes analytically distinct.

Gans and Horton (1975) identified two forms of coordination in social service organizations: administrative and direct service. Administrative coordination involves fiscal issues, personnel practices, and planning and programming. Joint budgeting and joint planning exemplify coordinated administrative practices. Coordinated direct service activities involve such things as case conferences or the use of case managers. In their study of human services integration projects, Gans and Horton found that the coordination process between organizations is complex in that administrative matters could be highly coordinated while direct service transactions remain fragmented and discontinuous.

Warren's typology of interorganizational fields can also be viewed as a classification of coordinated activities among interacting organizations (Warren, 1967). He identifies four distinct contexts in which interorganizational relationships proliferate: (1) **social choice,** wherein organizations act autonomously without regard to any goals transcending their own needs and interests; (2) **coalitional,** wherein cooperative interdependencies emerge on an issue-specific basis and interacting organizations retain complete control over their relational involvements; (3) **federative,** wherein a supraorganizational authority structure (such as a county or State government agency or a community interagency council) controls and monitors organizational interactions; and (4) **unitary,** wherein a supraorganizational authority structure determines and governs interdependencies among organizations under its control. This typology encompasses the extremes of low coordination (social choice) through high coordination (unitary). Some analysts would argue that the unitary context represents a state of full integration wherein otherwise autonomous organizations are brought under a single authority structure (see Morris and Hirsch-Lescohier, 1978).

Warren also has argued that the conventional juxtaposition of coordination and cooperation on the same continuum is inappropriate and misleading (Warren et al., 1974). In his view, coordination can result from both cooperative and conflictual relationships. Thus, he argues that coordination as an interorganizational process should be distinguished from the patterns of cooperation and conflict which initiate and sustain it. We also believe that coordination is a process and not an outcome of interorganizational relationships. It may or may not be desirable (Aldrich, 1978; Morris and Hirsch-Lescohier, 1978). Basing his comments on Warren's analysis of urban reform

movements, Perrow (1979:235) makes the following comments in regard to coordination: "What, then about the lack of coordination? Little was needed; there was an overall consensus as to who should do what, a division of labor or of sectors, and new formal coordination mechanisms did not increase the efficiency of the agencies... coordination has costs associated with it, as well as presumed benefits, and there may be substantial gains with redundant, uncoordinated activity and substantial costs with coordination which eliminates back-up facilities."

The Warren study also found that the new agencies designed to enhance coordination and innovation actually accomplished little. We thus view coordination as only one, rather than the penultimate, form of interorganizational transaction.

Measurement

a. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interactions which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: COORDINATION

Definition: Coordination refers to the extent to which organizations attempt to ensure that their activities take into account those of other organizations.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following question was asked to measure coordination:

> "How well are the activities of you organization and those of each of the other organizations coordinated? (Choose the best answer for each other organization and place it in the appropriate space, leave the line for your own organization blank)"
>
> 0 = no contact
> 1 = very well
> 2 = well
> 3 = adequately
> 4 = poorly
> 5 = very poorly
>
> ___ County Juvenile Court
> ___ County Department of Social Services, Services, Child Welfare Division
> ___ County CMHC
> ___ County Probation Service
> ___ County Detention-Shelter Care
> ___ City Police Department, Juvenile Division
> ___ City Public Schools, Student Service Department

Computation: Although the unit of analysis in this study is the dyad, scores on the adequacy of coordination are based only on information obtained from one agency rather than a composite of the responses from each agency pair. Each of the core

agencies rated the adequacy of coordination between their organization and each of the other organizations according to the 1 through 5 scale. Since there were multiple respondents from each organization, a mean response was calculated and used as the score for the adequacy of coordination between each agency. A high score (5) would mean that coordination was very poor while a low (1) score would mean that it is very good.

Comments: The measure of coordination proposed by Hall et al. (1977) allows the respondent to define coordination as he or she sees fit. That is, what is or is not a coordinated activity between the respondent's agency and another is left for the respondent to decide. As the authors note, since organizational respondents are likely to act on their own interpretations of the situation, allowing the respondent to answer in this way may yield the most valid measure of coordination between the agencies. It should be noted, however, that this measure does not provide clues as to the types of coordination involved in each of the relationships. Rather, what one measures is the extent of coordination of whatever kind. If the researcher is interested in assessing the existence of particular types of coordination between agencies, then additional questions should be used (c.f., Gans and Horton, 1975).

X

OUTCOMES

Relative to other concepts presented in this sourcebook, the outcomes of interorganizational relationships--whether measured at the individual client, organization, network, or community level--have received little attention in the research literature. Most of the work in this field has concentrated on understanding the patterning among environmental, structural, and process variables. As a result, few efforts have been made to link these clusters of variables together as predictors of interorganizational outcomes in any deliberate way (Benson, 1981).

The reasons for this state of the field can be attributed, in part, to the social policy and programmatic context within which interorganizational analyses have been conducted. Policy makers in the human services field, as noted earlier, have long presumed that interorganizational coordination is an inherent good (Warren, 1973; Morris and Hirsch-Lescohier, 1978). Whether we refer to the experience of mental health services, juvenile delinquency prevention, the Model Cities Program or neighborhood health centers, the pervasiveness of this belief is remarkable. As a consequence, there has been little felt need to document the actual accomplishments of interorganizational activity. Moreover, the state of the art in human services programming is such that professionals often are unable to specify precisely what their own organizational programs can accomplish. Their ability to conceptualize and identify the outcomes of interorganizational processes is even more retarded. Thus researchers have not been encouraged to pursue these interconnections nor have they been presented with a clear rationale for the cause-effect relations to be evaluated in their studies.

Other reasons for the neglect of outcomes studies can be attributed to the state of the art in social science research methods. The core reality is that outcome studies are very difficult to carry out. They require not only a clear specification of potential outcomes and suitable measures, but also a longitudinal time frame, multiple research sites, and long-term funding. Even so, a few efforts have been made to study the effectiveness of interorganizational arrangements and we now turn to a consideration of this issue.

Effectiveness

Conceptualization

The effectiveness issue is both simple and complex. Its simplicity is that it lies in the eyes and minds of the beholders. Van de Ven and Ferry (1980:327) have devised a simple set of questions involving the extent to which respondents believe that other organizations carry out their commitments, find the relationships to be productive, feel

the time and effort spent in the relationships are worthwhile, and are satisfied with the relationships.

The complexity of the interorganizational effectiveness issue is that there are multiple eyes and minds which can make this assessment. This is an identical problem in the evaluation of organizational effectiveness (Hall, 1982). The perceived effectiveness of interorganizational interactions can be assessed from the standpoint of participants within each organization, the organization as a whole, clients served or disserved, the community in which the interactions take place, or legislative or administrative decisionmakers who have jurisdiction over the particular dyads, sets, or networks in question. The outcome issue is thus one of political power, resource dependence, and moral choice. Outcomes which are good for one organization or interest group may be bad for another; clients may benefit, but the organizations may suffer; relationships may be cost effective, but damaging to organizations and clients. Analyses of interorganizational relationships must keep these contradictions in mind.

Measurement

a. Van de Ven and Ferry (1980)

Study description: For the past several years, Van de Ven and his associates have been engaged in a program of research on interorganizational relationships in a variety of settings (Van de Ven, 1976; Van de Ven et al., 1974; Van de Ven and Walker, 1978; Van de Ven et al., 1979; Van de Ven and Ferry, 1980). This program is one of the few concerted efforts in the field to develop valid and reliable measures of organizational relationships. In 1972, an initial version of an Organizational Assessment Instrument (OAI) was used with a sample of 16 local offices and 249 work units of a large State employment security agency in Texas. The measurement properties of the OAI were evaluated and the schedule was revised. A second survey using the revised OAI was conducted in 1973 with all 30 local administrative offices and 318 units of the same state agency. Another evaluation of the validity and reliability of the measures was performed, and further revisions were made. Finally, the new version of the OAI was used in 1974 for a survey of the interorganizational relations between 14 Early Childhood Development Agencies and a number of community agencies in Texas. One distinct advantage of the OAI is that it contains virtually identical variable measures at the subunit, dyad, and network levels with only minor wording changes to reflect the focal unit of analysis.

Validity and reliability assessments of the OAI at the subunit and dyadic levels of analysis are reported in Van de Ven and Ferry (1980). A preliminary network analysis of these data is presented in Van de Ven et al. (1979), but the measurement properties of the network version of the OAI have yet to be reported.

The OAI is copyrighted by John Wiley and Sons in Van de Ven and Ferry (1980). For permission to use any of the OAI measures, readers are asked to contact Professor Van de Ven at the School of Management, University of Minnesota, 271 19th Avenue S., Minneapolis, MN 55455.

Concept: PERCEIVED EFFECTIVENESS

Definition: Perceived effectiveness refers to the extent to which the involved parties perceive each agency to carry out its commitments and judge the relationship to be worthwhile, productive, and satisfying.

Data collection: Data were collected by means of interviews with agency directors. Each director completed a "focal agency" interview schedule which was administered by the research staff. These respondents were asked about their relations with four organizations which constituted the core child care network in their county: the Departments of Public Welfare and Public Health, the independent school district, and the Office of Childhood Development. In addition, these respondents answered the questions for three to seven other agencies with which they had been directly involved in some way during the preceding 6 months. Thus, these questions were asked about the agency's relations with each of seven to eleven other agencies. In all, complete data were available on 133 dyads.

The following questions were asked to assess conflict resolution among agencies:

"We would like your perspective on these interagency relationships. Please answer the questions for each of the designated other agencies individually. Write in the appropriate columns the number from the answer scale that reflects your most accurate answer to each question for each other agency."

	Agency 1	.....	Agency N
1. To what extent does this agency carry out the commitments it initially agreed to in regard to your organization?	_____	.....	_____
2. To what extent do you feel the relationship between your organization and this agency is productive?	_____	.....	_____
3. To what extent is the time and effort spent in developing and maintaining the relationship with this agency worthwhile?	_____	.....	_____
4. Overall, to what extent are you satisfied with the relationship between your organization and this agency?	_____	.....	_____

Don't Know	To No Extent	Little Extent	Some Extent	Considerable Extent	Great Extent
0	1	2	3	4	5

Computation: The authors derived a single score for each of the organizational dyads in the study. As a first step, the responses to the four questions were averaged in order to obtain a single score for the effectiveness of the relationship with each of the other agencies. Then, this mean response score from each agency was combined with the mean response score of the other agency; that is, the focal agency's mean score for the effectiveness of its relationship with the member agency was combined with the member agency's mean score of its relationship with the focal agency. The average of

these two mean scores then became the measure indicating the extent of the effectiveness of the relationship for each dyad.

Comments: Van de Ven and Ferry (1980) report an assessment of the dyadic version of these measures. Using a principal component factor analysis with an oblimin solution, the authors found that the four items composing the index loaded highly on only one factor. This suggests that the items composing the measure are relatively independent of other measures in the OAI and that these items measure the same underlying concept. In addition, the authors assessed the reliability of these items. They predicted an alpha coefficient in the .70 - .90 range and observed a coefficient value of .78. Further, the median correlation of this index with other indices in the OAI was .20. Thus, the authors are satisfied that these items provide relatively valid and reliable measures of the effectiveness of interorganizational relationships.

Measurement

b. Hall and associates (1977)

Study description: This study investigates the degree of coordination among organizations which deal with problem youth. The authors focus on the different forms of interactions which take place among such agencies depending on whether the relationship is mandated, voluntary, or predicated on some other basis of contact. The study was conducted over a 2-year period (1971-1973) in 12 cities. In each city, six to eight core agencies dealing with problem youth were identified. Of those agencies contacted, eight declined to participate in the study. The analyses involved a total of 76 organizations in the 12 cities.

Concept: POSITIVE ASSESSMENTS

Definition: No explicit definition is provided, but the concept refers to the extent to which participants in a relationship view the philosophies of their agencies as compatible, the extent to which they perceive one another's performance as adequate, and the extent to which they perceive the other agency's personnel as competent.

Data collection: The data reported in this study were obtained from 3,853 questionnaires distributed to the professional staff in each of the 76 organizations. A 60 percent response rate was obtained. The following questions were asked to measure positive assessments:

1. "How compatible is your organization's operating philosophy with that of each of the other organizations?"

0 = no contact
1 = very compatible
2 = moderately compatible
3 = not compatible

___ County Juvenile Court
___ County Department of Social Services, Child Welfare Division
___ County CMHC
___ County Probation Service
___ County Detention-Shelter Care
___ City Police Department, Juvenile Division
___ City Public Schools, Student Service Department

2. "How well does each of the other agencies perform its task in regard to problem youth?"

1 = very well
2 = well
3 = adequately
4 = poorly
5 = very poorly

___ County Juvenile Court
___ County Department of Social Services, Child Welfare Division
___ County CMHC
___ County Probation Service
___ County Detention-Shelter Care
___ City Police Department, Juvenile Division
___ City Public Schools, Student Service Department

3. "How would you describe the competence of the personnel in each of the other organizations?"

1 = all are competent
2 = most are competent
3 = some are competent
4 = few are competent
5 = none are competent

___ County Juvenile Court
___ County Department of Social Services, Child Welfare Division
___ County CMHC
___ County Probation Service
___ County Detention-Shelter Care
___ City Police Department, Juvenile Division
___ City Public Schools, Student Service Department

Computation: Although the unit of analysis in this study is the dyad, scores on these positive assessment questions are based only on information obtained from one agency rather than a composite of the responses from each agency pair. Each of the core agencies rated their assessment of the other organizations according to the scale associated with each question. Since there were multiple respondents from each organization, a mean response was calculated and used as the score on each question. In the data analysis, the authors develop a "sheaf coefficient" (Heise, 1972) for these three scores. This coefficient is a statistical technique for obtaining a single measure of multiple effects when there is high multicolinearity among the individual measures. In this case, the three positive assessment scores were highly intercorrelated and the sheaf coefficient was used as a composite indicator in the regression analyses.

Comments: The measure of the effectiveness of interorganizational relationships by Hall et al. (1977) implies that the extent to which members of a dyadic relation hold positive opinions about one another is an accurate indicator of the effectiveness of their working relationship. Thus, when respondents rate the other agency's personnel as incompetent, performance of tasks as poor, and operating philosophy as incompatible with their own, the implication is that the relationship is ineffective.

This measure differs from that provided by Van de Ven and Ferry (1980). While both measures attempt to get at an overall assessment of the effectiveness of the relation by inquiring about various aspects of the working relationship, the Hall measure tends to focus upon evaluations of specific characteristics of the other agency. In contrast, the Van de Ven and Ferry measure focuses on evaluations of the relationship

without inquiring about specific characteristics of the agencies involved. For example, Hall and associates ask about the competence of the personnel in the other organization, while Van de Ven and Ferry inquire about the degree of productivity or the extent to which the relationship is worthwhile. Thus, the Hall measure asks for a more direct evaluation of agency characteristics than the Van de Ven and Ferry measure. Whether one or the other approach is more appropriate depends on the particular problem in which the researcher is interested.

Other Outcome Considerations

In order to respond to the growing emphasis on performance measurement in mental health and other human service programing, a much broader approach to the outcomes of interorganizational activity will have to be followed in future systems evaluation studies. As noted in chapter I, performance measures encompass a variety of client and program-level variables such as continuity of care, cost-efficiency, accessibility, and equity of service delivery. Performance measures can be viewed as dependent or criterion variables that vary with the structure and dynamics of the interorganizational relationships in a service network or system.

The direction for further research in this area would be to gather data on these performance outcomes as well as the interorganizational variables profiled in this sourcebook (see Morrissey, 1982). Analyses could then be undertaken to determine empirically the extent to which performance indicators covary with various dimensions of the interorganizational services network. In this way it would be possible, for example, to determine whether client accessibility is enhanced by geographical proximity among a decentralized network of service providers as opposed to a single, centralized agency; the impact of fiscal diversity on the comprehensiveness of care; and the extent to which continuity of care (Bass and Windle, 1972; Bachrach, 1981) is enhanced by case managers as opposed to integrated clinical teams. By combining interorganizational perspectives with traditional program evaluation strategies, therefore, information can be generated that would be useful not only for academic researchers but for Government-funding agencies, for self-evaluation and internal management of individual agencies, and for the further development of organized joint ventures among the consortia of service providers.

As case examples of this type of research become available, it would be possible for others to extend the scope of the presentations offered in this sourcebook and to develop a primer on research design, data collection, and analysis for such multi-faceted studies. The materials presented in this sourcebook provide a basis for further work along these lines, and they suggest some of the potential benefits that can accrue from interorganizational studies of service delivery in the mental health and human services field.

APPENDIX

INDEX OF CONCEPTS AND MEASURES

CONCEPTS	MEASURES	SOURCE	PAGES
Environmental Context	Environmental Intensity	Smith, Shortell and Saxberg (1979)	30-33
	Environmental Turbulence	Galaskiewicz and Shatin (1981)	33-34
Situational Factors			
Agency Awareness	Awareness	Van de Ven and Ferry (1980)	36-38
Domain Consensus	Domain Consensus	Van de Ven and Ferry (1980)	39-40
Domain Similarity	Domain Similarity	Van de Ven and Ferry (1980)	41-43
Geographical Proximity	Geographical Proximity	Boje and Whetten (1981)	43-44
Localized Dependency	Localized Dependence	Mulford (1980)	45-46
Size	Organization-Set Size	Whetten and Aldrich (1979)	47-48
Bases of Interaction			
Voluntary vs. Mandated Interactions	Bases of Contact	Hall and Associates (1977)	50-51
	Mandated Linkages	Boje and Whetten (1981)	51-52
Ad hoc versus Formalized Interactions	Agreement Formalization	Van de Ven and Ferry (1980)	53-55
Bargaining or Exchange Interactions	Bargaining and Setting the Terms of Interaction	Schmidt and Kochan (1977)	56-57
Interpersonal Ties	Interpersonal Ties	Boje and Whetten (1981)	58-59
Resource Flows			
Resource Inter-dependence	Resource Dependence	Van de Ven and Ferry (1980)	61-63
Intensity	Resource Flows	Van de Ven and Ferry (1980)	64-65
	Intensity	Klonglan and Associates (1976)	65-67
Joint Programs	Organizational Interdependence	Aiken and Hage (1968)	68-69
	Joint Programs	Zober (1979)	69-70

CONCEPTS	MEASURES	SOURCE	PAGES
Director Interlocks	Director Interlocks	Provan, Beyer, and Kruyptbosch (1980)	71-72
Transaction Structures			
Interaction Formalization	Committee Formalization	Van de Ven and Ferry (1980)	73-75
Interaction Standardization	Standardization	Whetten and Szwajkowski (1978)	76-77
Transaction Processes			
Importance	Importance of Contact	Hall and Associates (1977)	78-79
Frequency	Frequency of Contact	Hall and Associates (1977)	80-81
	Frequency of Communications	Van de Ven and Ferry (1980)	81-83
Reciprocity	Obligations Incurred	Maas (1979)	83-85
Power and its Correlates	Power	Hall and Associates (1977)	86-87
	Centrality	Galaskiewicz (1979)	87-88
Cooperation	Perceived Cooperation	Whetten and Szwajkowski (1978)	89-90
Conflict	Extent of Conflict	Hall and Associates (1977)	91-92
Conflict Resolution	Conflict Resolution	Van de Ven and Ferry (1980)	92-94
	Quality of Conflict Resolution	Hall and Associates (1977)	94-95
Coordination	Coordination	Hall and Associates (1977)	97-98
Outcomes			
Effectiveness	Perceived Effectiveness	Van de Ven and Ferry (1980)	100-102
	Positive Assessments	Hall and Associates (1977)	102-104

REFERENCES

Adams, Richard N., and Jack J. Preiss (eds.)
1960 **Human Organization Research: Field Relations and Techniques.** Homewood, IL: Dorsey Press.

Agranoff, Robert and A. Pattakos
1979 "Dimensions of Services Integration: Service Delivery, Program Linkages, Policy Management, Organizational Structure." **Human Service Monograph Series 13, Project Share.** Washington, DC: U.S. Government Printing Office.

Aiken, Michael, R. Dewar, N. DiTomaso, J. Hage, and G. Zeitz
1975 **Coordinating Human Services.** San Francisco: Jossey Bass.

Aiken, Michael and Jerald Hage
1967 "Reply to Tausky." **American Sociological Review** 32(February):118-20.
1968 "Organizational Interdependence and Interorganizational Structure." **American Sociological Review** 33(December):912-30.

Aldrich, Howard E.
1971 "Organizational Boundaries and Interorganizational Conflict." **Human Relations** 24(August):279-87.
1972a "An Organization-Environment Perspective on Cooperation and Conflict Between Organizations in the Manpower Training System." Pp. 49-70 in A.R. Negandhi (ed.) **Interorganization Theory.** Kent, OH: Comparative Administration Research Institute, Kent State University.
1972b "Technology and Organizational Structure: A Re-Examination of the Findings of the Aston Group." **Administrative Science Quarterly** 17(March):26-43.
1974 "The Environment as a Network of Organizations: Theoretical and Methodological Implications." Paper presented at the International Sociological Association Meetings, Toronto, Canada.
1975 "Organization Sets, Action Sets, and Networks: Making the Most of Simplicity." Ithaca, NY: School of Labor and Industrial Relations, Cornell University.
1978 "Centralization versus Decentralization in the Design of Human Service Delivery Systems: A Response to Gouldner's Lament." Pp. 51-79 in R. Sarri and Y. Hasenfeld (eds.) **The Management of Human Services.** New York: Columbia University Press.
1979 **Organizations and Environments.** Englewood Cliffs, NJ: Prentice-Hall.

Aldrich, Howard E. and Diane Herker
1977 "Boundary Spanning Roles and Organization Structure." **Academy of Management Review** (April):217-30.

Aldrich, Howard E. and Jeffrey Pfeffer
1976 "Environments of Organizations." **Annual Review of Sociology** 2:79-105.

Allen, Michael P.
1974 "The Structure of Interorganizational Elite Cooptation: Interlocking Corporate Directorates." **American Sociological Review** 39(June):393-496.

Althauser, Robert P.
1974 "Inferring Validity from the Multitrait-Multimethod Matrix: Another Assessment." Pp. 106-27 in H.L. Costner (ed.) **Sociological Methodology, 1973-1974.** San Francisco: Jossey-Bass.

Assael, Henry
1969 "Constructive Role of Interorganizational Conflict." **Administrative Science Quarterly** 14(December):573-82.

Attkisson, C. Clifford, William Hargreaves, Mardi Horowitz, and James Sorensen
1978 **Evaluation of Human Service Programs.** New York: Academic Press.

Bachrach, Leona
1981 "Continuity of Care for Chronic Mental Patients: A Conceptual Analysis." **American Journal of Psychiatry** 138(November):1449-56.

Baker, Frank (ed.)
1973 **Organizational Systems: General Systems Approaches to Complex Organizations.** Homewood, IL: Irwin.

Baker, Frank and Cecil Issacs
1973 **A Study of the Ways in Which CMHC Services are Integrated into Other Types of Health and Caregiving Functions.** Boston, MA: Socio-Technical Systems.

Baker, Frank and Gregory O'Brien
1971 "Intersystems Relations and Coordination of Human Service Organizations." **American Journal of Public Health** 61(1):130-37.

Barton, Allen H.
1961 **Organizational Measurement and Its Bearing on the Study of College Environments.** New York: College Entrance Examination Board.

Bass, Roslyn and Charles Windle
1972 "Continuity of Care: An Approach to Measurement." **American Journal of Psychiatry** 129(August):196-201.

Bassuk, Ellen and J. Gerson
1978 "Deinstitutionalization and Mental Health Services." **Scientific American** 238(February):46-53.

Baty, Gordon, William Evan, and Terry Rothermel
1971 "Personnel Flows as Interorganizational Relations." **Administrative Science Quarterly** 16(December):430-43.

Becker, Howard and Blanche Geer
1957 "Participant Observation and Interviewing: A Comparison." **Human Organization** 16(January):28-34.

Becker, Robert
1972 "The Organization and Management of Community Mental Health Services." **Community Mental Health Journal** 8(Winter):292-312.

Benson, J. Kenneth
1975 "The Interorganizational Network as a Political Economy." **Administrative Science Quarterly** 20(June):229-49.
1981 "Expanding Our Concept of Coordination in the Policy Arena." In David L. Rogers and David A. Whetten (eds.), **Interorganizational Coordination.** Ames, IO: University of Iowa Press.

Benson, J. Kenneth, Joseph T. Kunce, Charles A. Thompson, and David L. Allen
1973 **Coordinating Human Services.** Columbia, MO: University of Missouri, Regional Rehabilitation Research Institute.

Blake, Richard R. and Jane S. Mouton
1964 **The Managerial Grid.** Houston, TX: Gulf Western.

Blalock, Herbert M. Jr. (ed.)
1970 **Measurement in the Social Sciences.** Chicago: Aldine.

Blau, Peter M.
1964 **Exchange and Power in Social Life.** New York: Wiley.
Boje, David M. and David A. Whetten
1981 "Effects of Organizational Strategies and Constraints on Centrality and Attributions of Influence in Interorganizational Networks." **Administrative Science Quarterly** 26(September):378- 395.
Braito, Rita, Steven Paulson and Gerald Klonglan
1972 "Domain Consensus: A Key Variable in Interorganizational Analysis." Pp. 176-92 in M. Brinckerhoff and P. Kunz (eds.) **Complex Organizations and Their Environments.** Dubuque, IO: William C. Brown.
Breiger, Robert L., Scott A. Boorman, and Paul Arabie
1975 "An Algorithm for Clustering Relational Data, With Applications to Social Network Analysis and Comparison with Multidimensional Scaling." **Journal of Mathematical Psychology** 12(August):328-83.
Broskowski, Anthony
1980 **Literature Review on Interorganizational Relationships and Their Relevance to Health and Mental Health Coordination.** Tampa, FL: Northside Community Mental Health Center (Final Report NIMH Contract #278-0030 OP).
Buckley, Walter
1967 **Sociology and Modern Systems Theory.** Englewood Cliffs, NJ: Prentice-Hall.
Buell, Bradley and Associates
1952 **Community Planning for Human Services.** New York: Columbia University Press.
Burke, Ronald J.
1970 "Methods of Resolving Superior-Subordinate Conflict: The Constructive Use of Subordinate Differences and Disagreements." **Organizational Behavior and Human Performance** 5(4):393-411.
Burt, Ronald S.
1977a "Power in a Social Typology." **Social Science Research** 6(Winter):1-83.
1977b **STRUCTURE: A Computer Program Providing Basic Data for the Analysis of Empirical Positions in a System of Actors.** Berkeley, CA: Survey Research Center, University of California.
1980 "Models of Network Structure." **Annual Review of Sociology** 6:79- 141.
Burt, Ronald S., Kenneth P. Christman, and Harold C. Kilburn, Jr.
1980 "Testing a Structural Theory of Corporate Cooptation: Interorganizational Directorate Ties as a Strategy for Avoiding Market Constraints on Projects." **American Sociological Review** 45(October):821-41.
Campbell, Donald T. and D.W. Fiske
1959 "Convergent and Discriminant Validation by the Multitrait-Multimethod Matrix." **Psychological Bulletin** 56(1):81-105.
Campbell, Donald T. and Julian Stanley
1969 **Experimental and Quasi-Experimental Designs for Research.** Chicago: Rand McNally.
Caplow, Theodore
1964 **Principles of Organization.** New York: Harcourt, Brace.
Caragonne, P.
1978 "Service Integration: Where Do We Stand?" Paper presented at the 39th National Conference on Public Administration, Phoenix, April.
Carmines, Edward and Richard Zeller
1979 **Reliability and Validity Assessment.** Beverly Hills, CA: Sage.

Chu, Franklyn and S. Trotter
1974 **The Madness Establishment.** New York: Grossman.
Churchman, C. West
1968 **The Systems Approach.** New York: Delta.
Clark, Burton
1965 "Interorganizational Patterns in Education." **Adminstrative Science Quarterly** 10(September):224-37.
Connolly, Terry and Stuart Deutsch
1980 "Performance Measurement: Some Conceptual Issues." **Evaluation and Program Planning** 3(1):35-43.
Cook, Karen S.
1977 "Exchange and Power in Networks of Interorganizational Relations." **Sociological Quarterly** 18(Winter):62-82.
Costner, Herbert L.
1969 "Theory, Deduction, and Rules of Correspondence." **American Journal of Sociology** 75(November):245-63.
Cox, Fred M., John L. Erlich, John Rothman and John E. Tropman (eds.)
1970 **Strategies of Community Organization.** Itasca, IL: F.E. Peacock.
Dahl, Robert
1957 "The Concept of Power." **Behavioral Science** 2(July):202-23.
Dill, William R.
1958 "Environment as an Influence on Managerial Autonomy." **Administrative Science Quarterly** 2(March):409-43.
Duncan, Robert
1972 "Characteristics of Organizational Environments and Perceived Environmental Uncertainty." **Administrative Science Quarterly** 17(September):313-27.
Emerson, Richard M.
1962 "Power-Dependence Relations." **American Sociological Review** 27(February):31-40.
Emery, Fred E. and Eric L. Trist
1965 "The Casual Texture of Organizational Environments." **Human Relations** 18(February):21-32.
Etzioni, Amitai
1960 "New Directions in the Study of Organizations and Society." **Social Research** 27(Summer):223-28.
Evan, William M. (ed.)
1966 "The Organization-Set: Toward a Theory of Interorganizational Relations." Pp. 175-90 in J. Thompson (ed.) **Approaches to Organizational Design.** Pittsburgh, PA: University of Pittsburgh Press.
1978 **Interorganizational Relations.** Philadelphia: University of Pennsylvania Press.
Filley, Allen C., Robert J. House and Steven Kerr
1976 **Managerial Process and Organizational Behavior,** 2nd Edition. Glenview, IL: Scott-Foresman.
Flaherty, E.W., E. Barry, and M. Swift
1978 "Use of an Unobstrusive Measure for the Evaluation of Interagency Coordination." **Evaluation Quarterly** 2(May):261-73.
Forcese, Dennis P. and Stephen Richer
1973 **Social Research Methods.** Englewood Cliffs, NJ: Prentice-Hall.
French, John R.P. and Bertram Raven
1968 "The Bases of Social Power." Pp. 259-69 in D. Cartwright and A. Zander (eds.) **Group Dynamics,** 3rd Edition. New York: Harper and Row.

Galaskiewicz, Joseph
1979 "The Structure of Community Organizational Networks." **Social Forces** 57(June):1346-64.
Galaskiewicz, Joseph and Peter V. Marsden
1978 "Interorganizational Resource Networks: Formal Patterns of Overlap." **Social Science Research** 7(Spring):89-107.
Galaskiewicz, Joseph and Deborah Shatin
1981 "Leadership and Networking Among Neighborhood Human Service Organizations." **Administrative Science Quarterly** 26(September):434-48.
Galtung, Johan
1967 **Theory and Methods of Social Research.** New York: Columbia University Press.
Gans, Sheldon P. and Gerald T. Horton
1975 **Integration of Human Services: The State and Municipal Levels.** New York: Praeger.
Gardner, Elmer A. and James N. Snipe
1970 "Toward the Coordination and Integration of Personal Health Services." **American Journal of Public Health** 60(November):2068- 78.
Goldman, Howard H., Barbara Burns, and Jack Burke, Jr.
1980 "Integrating Primary Health Care and Mental Health Services: A Preliminary Report." **Public Health Reports** 95(November-December):535-39.
Granovetter, Mark
1973 "The Strength of Weak Ties." **American Journal of Sociology** 78(May):1360-80.
Greenley, James R. and Stuart A. Kirk
1973 "Organizational Characteristics of Agencies and the Distribution of Services to Applicants." **Journal of Health and Social Behavior** 14(March):70-79.
Guetzkow, Harold
1966 "Relations Among Organizations." Pp. 13-44 in R.V. Bowers (ed.) **Studies in Behavior in Organizations: A Research Symposium.** Athens, GA: University of Georgia Press.
Haas, J. Eugene, and Thomas E. Drabek
1973 **Complex Organizations: A Sociological Perspective.** New York: MacMillan.
Hage, Jerald
1980 **Theories of Organizations.** New York: Wiley.
Hall, Richard H.
1977 **Organizations: Structure and Process,** 2nd Edition. Englewood Cliffs, NJ: Prentice-Hall.
1982 **Organizations: Structure and Process,** 3rd Edition. Englewood Cliffs, NJ: Prentice-Hall.
Hall, Richard H., John P. Clark, and Peggy C. Giordano
1978 "The Extent and Correlates of Interorganizational Conflict." Albany, NY: Department of Sociology, State University of New York at Albany.
Hall, Richard H., John P. Clark, Peggy Giordano, Paul Johnson, and M. Roekel
1977 "Patterns of Interorganizational Relationships." **Administrative Science Quarterly** 22(September):457-74.
Halpert, Burton P.
1974 **An Empirical Study of the Relationship Between Power, Conflict, and Cooperation on the Interorganizational Level.** Unpublished Doctoral Dissertation, Department of Sociology, University of Minnesota.

1981 "Antecedent Conditions Which Facilitate or Inhibit Coordination." In D. Rogers and D. Whetten (eds.) **Interorganizational Coordination.** Ames, IO: University of Iowa Press.

Hannan, Michael and John Freeman
1977 "The Population Ecology of Organizations." **American Journal of Sociology** 82(March):929-64.

Hasenfeld, Yeheskel and Richard A. English (eds.)
1974 **Human Service Organizations.** Ann Arbor: University of Michigan Press.

Heise, David
1972 "Employing Nominal Variables, Induced Variables, and Block Variables in Path Analyses." **Sociological Methods and Research** 1(May):147-73.

Jacobs, David
1974 "Dependency and Vulnerability: An Exchange Approach to the Control of Organizations." **Administrative Science Quarterly** 19(March):45-59.

John, D.
1977 "Managing the Human Service System: What Have We Learned From Services Integration?" **Human Service Monograph Series Project Share.** Washington, DC: U.S. Government Printing Office.

Johns, Ray and David DeMarch
1951 **Community Organization and Agency Responsibility.** New York: Association Press.

Jones, Wyatt C.
1971 "Research in Social Work: Social Planning and Community Organization." Pp. 1122-23 in R. Morris (ed.) **Encyclopedia of Social Work,** 16th Edition. New York: National Association of Social Workers.

Jurkovich, Ray
1974 "A Core Typology of Organizational Environments." **Administrative Science Quarterly** 19(September):380-89.

Kahn, Alfred J.
1969 **Theory and Practice of Social Planning.** New York: Russell Sage Foundation.

Katz, Daniel and Robert L. Kahn
1966 **The Social Psychology of Organizations.** New York: Wiley.

Keppler-Seid, Heather, Charles Windle, and J. Richard Woy
1980 "Performance Measures for Mental Health Programs: Something Better, Something Worse, or More of the Same?" **Community Mental Health Journal** 16(Fall):217-34.

Kirk, Stuart A. and James R. Greenley
1974 "Denying or Delivering Services?" **Social Work** (July):439-47.

Klonglan, Gerald E. and Steven K. Paulson
1971 **Coordinating Health Organizations: The Problem of Cigarette Smoking.** Washington, DC: National Clearinghouse for Smoking and Health, United States Public Health Service.

Klonglan, Gerald E., Richard D. Warren, Judy M. Winkelpleck, and S.K. Paulson
1976 "Interorganizational Measurement in the Social Services Sector: Differences by Hierarchial Level." **Administrative Science Quarterly** 21(December):675-87.

Landau, Martin
1969 "Redundancy, Rationality, and the Problem of Duplication and Overlap." **Public Administration Review** 29(July-August):346-58.

Lannon, Peter
1981 **Evaluation of the New York-National Institute of Mental Health Community Support Program: A Position Paper and Status Report.** Albany, NY: Bureau of Demonstration Projects, New York State Office of Mental Health.

Laumann, Edward, Joseph Galaskiewicz, and Peter Marsden
1978 "Community Structure as Interorganizational Linkages." **Annual Review of Sociology** 4:455-84.

Lawrence, Paul R. and Jay W. Lorsch
1967a "Differentiation and Integration in Complex Organizations." **Administrative Science Quarterly** 12(March):1-47.
1967b **Organization and Environment.** Cambridge, MA: Harvard University Press.

Lazarsfeld, Paul F. and Herbert Menzel
1969 "On the Relation Between Individual and Collective Properties." Pp. 499-516 in A. Etzioni (ed.) **A Sociological Reader on Complex Organizations,** 2nd Edition. New York: Holt, Rinehart, and Winston.

Lehman, Edward W.
1975 **Coordinating Health Care: Explorations in Interorganizational Relations.** Beverly Hills, CA: Sage Publications.

Levine, Sol
1974 "Organizational and Professional Barriers to Interagency Planning." Pp. 373-80 in H. Demone and D. Harshbarger (eds.) **A Handbook of Human Service Organizations.** New York: Behavioral Publications.

Levine, Sol and Paul E. White
1961 "Exchange as a Conceptual Framework for the Study of Interorganizational Relationships." **Administrative Science Quarterly** 5(March):583-610.

Levine, Sol, Paul E. White, and Benjamin D. Paul
1963 "Community Interorganizational Problems in Providing Medical Care and Social Services." **American Journal of Public Health** 53(August):1183-95.

Lin, Nan
1976 **Foundations of Social Research.** New York: McGraw-Hill.

Litwak, Eugene and Lydia Hylton
1962 "Interorganizational Analysis: A Hypothesis on Coordinating Agencies." **Administrative Science Quarterly** 6(March):395-420.

Litwak, Eugene and Jack Rothman
1970 "Towards the Theory and Practice of Coordination Between Formal Organizations." Pp. 137-86 in W. Rosengren and M. Lefton (eds.) **Organization and Clients.** Columbus, OH: Charles E. Merrill.

Long, Norton
1958 "The Local Community as an Ecology of Games." **American Journal of Sociology** 64(November):251-61.

Maas, Meridean L.
1979 **A Formal Theory of Organizational Power.** Unpublished Doctoral Dissertation, Department of Sociology, Iowa State University.

Maniha, John K. and Charles Perrow
1965 "The Reluctant Organization and the Aggressive Environment." **Administrative Science Quarterly** 10(September):238-57.

March, James G. and Herbert A. Simon
1958 **Organizations.** New York: Wiley.

Marrett, Cora B.
1971 "On the Specification of Interorganizational Dimensions." **Sociology and Social Research** 56(October):83-99.
Martin, J. David and Louis Gray
1971 "Measurement of Relative Variation: Sociological Examples." **American Sociological Review** 36(June):496-502.
Mathiesen, Thomas
1972 **Across the Boundaries of Organizations.** Berkeley, CA: Glendessary Press.
Mayer, Robert
1972 **Social Planning and Social Change.** Englewood Cliffs, NJ: Prentice-Hall.
Merton, Robert K.
1957 **Social Theory and Social Structure.** Glencoe, IL: Free Press.
Metcalf, J.L.
1976 "Organizational Strategies and Interorganizational Networks." **Human Relations** 29(April):327-343.
Miller, E.J. and A.K. Rice
1967 **Systems of Organization.** London: Tavistock.
Miller, James G.
1972 "Living Systems: The Organization." **Behavioral Science** 17(January):1-182.
MIN
1979 "When "MIN" Means More." **Innovations** 6(Spring):19-20.
Molnar, Joseph J.
1978 "Comparative Organizational Properties and Interorganizational Interdependence." **Sociology and Social Research** 63(October):24-48.
Molnar, Joseph J. and David L. Rogers
1979 "A Comparative Model of Interorganizational Conflict." **Administrative Science Quarterly** 24(September):405-24.
Morris, Robert and Ilana H. Hirsch-Lescohier
1978 "Service Integration: Real Versus Illusory Solutions to Welfare Dilemmas." Pp. 21-50 in P. Sarri and Y. Hasenfeld (eds.) **The Management of Human Services.** New York: Columbia University Press.
Morrissey, Joseph P.
1982 "Assessing Interorganizational Linkages: Towards a Systems Analysis of Community Support Programs at the Local Level." In R. Tessler and H. Goldman (eds.) **The Chronically Mentally Ill: Assessing Community Support Programs.** Cambridge, MA: Ballinger.
Morrissey, Joseph P. and Wyatt C. Jones
1977 "Research in Social Work: Interorganizational Analysis." Pp. 1194-99 in J. Turner (ed.) **Encyclopedia of Social Work,** 17th Edition. Washington, DC: National Association of Social Workers.
Mott, Basil J.F.
1968 **Anatomy of a Coordinating Council.** Pittsburgh: University of Pittsburgh Press.
Mulford, Charles L.
1980 "Dyadic Properties as Correlates of Exchange and Conflict Between Organizations." Ames, IO: Department of Sociology, Iowa State University.
Mulford, Charles L. and Mary A. Mulford
1980 "Interdependence and Intraorganizational Structure for Voluntary Organizations." **Journal of Voluntary Action Research** 9(1):20-34.

Murrell, Stanley A.
1973 **Community Psychology and Social Systems.** New York: Behavioral Publications.
National Academy of Public Administration
1971 **The Multi-Agency Community Mental Health Center: Administration and Organizational Relationships.** Washington, DC: National Academy of Public Administration.
National Institute of Law Enforcement and Criminal Justice
1976 **Performance Measurement and the Criminal Justice System.** Washington, DC: Law Enforcement Assistance Administration, U.S. Department of Justice.
Oppenheim, A.N.
1966 **Questionnaire Design and Attitude Measurement.** New York: Basic Books.
Ozarin, Lucy
1968 "The Community Mental Health Center: Concept and Commitment." **Mental Hygiene** 52(January):76-80.
Ozarin, Lucy and Saul Feldman
1971 "The Community Mental Health Centers Amendments of 1970." **American Journal of Public Health** 61(December):1780-84.
Pennings, Johannes
1973 "Measures of Organizational Structure: A Methodological Note." **American Journal of Sociology** 79(November):688-704.
1980 **Interlocking Directorates.** San Francisco: Jossey-Bass.
Perrow, Charles
1979 **Complex Organizations: A Critical Essay,** 2nd Edition. Glenview, IL: Scott, Foresman.
Pfeffer, Jeffrey
1972a "Size and Composition of Corporate Boards of Directors." **Administrative Science Quarterly** 17(June):218-28.
1972b "Merger as a Response to Organizational Interdependence." **Administrative Science Quarterly** 17(September):328-94.
Pfeffer, Jeffrey and Anthony Long
1977 "Resource Allocation in United Funds: Examination of Power Independence." **Social Forces** 55(March):735-90.
Pfeffer, Jeffrey and Phillip Nowak
1976 "Joint Ventures and Interorganizational Dependence." **Administrative Science Quarterly** 21(September):398-418.
Pfeffer, Jeffrey and Gerald Salancik
1978 **The External Control of Organizations: A Resource Dependence Perspective.** New York: Harper and Row.
Pondy, Louis R.
1969 "Varieties of Organizational Conflict." **Administrative Science Quarterly** 14(December):498-505.
President's Commission on Mental Health
1978 **Report to the President from the President's Commission on Mental Health.** Washington, DC: U.S. Government Printing Office.
Price, James L.
1968 "Design of Proof in Organizational Research." **Administrative Science Quarterly** 13(June):121-34.
1972 **Handbook of Organizational Measurement.** Lexington, MA: D.C. Heath.

Provan, Keith G., Janice M. Beyer, and Carlos Kruytbosch
1980 "Environmental Linkages and Power in Resource-Dependence Relations Between Organizations." **Administrative Science Quarterly** 25(June):200-25.
Reid, William J.
1964 "Interagency Coordination in Delinquency Prevention and Control." **Social Service Review** 38(December):418-28.
1969 "Inter-Organizational Coordination in Social Welfare: A Theoretical Approach to Analysis and Intervention." Pp. 188-200 in R.M. Kramer and H. Spect (eds.) **Readings in Community Organization Practice.** Englewood Cliffs, NJ: Prentice-Hall.
Rein, Martin
1970 **Social Policy: Issues of Choice and Change.** New York: Random House.
Reve, Toger and Lewis W. Stern
1979 "Interorganizational Relations in Marketing Channels." **Academy of Management Review** 4(July):405-16.
Riecken, Henry W. and Robert R. Boruch
1974 **Social Experimentation: A Method for Planning and Evaluating Social Intervention.** New York: Academic Press.
Rieker, Patricia P., Patrick M. Horan, and Joseph P. Morrissey
1976 **The Structure of Interorganizational Relations of Community Mental Health Centers: A Framework and Methods of Data Collection and Analysis.** Chapel Hill, NC: Social Research Section, University of North Carolina (Final Report NIMH Contract No. HSM-4272-120).
Rogers, David L.
1974 "Towards a Scale of Interorganizational Relations Among Public Agencies." **Sociology and Social Research** 59(October):61-70.
Rogers, David L. and David A. Whetten
1981 **Interorganizational Coordination.** Ames, IO: University of Iowa Press .
Schermerhorn, John R.
1975 "Determinants of Interorganizational Cooperation." **Academy of Management Journal** 18(December):846-56.
Schmidt, Stuart M. and Thomas A. Kochan
1977 "Interorganizational Relationships: Patterns and Motivations." **Administrative Science Quarterly** 23(June):220-34.
Schulberg, Herbert and Frank Baker
1970 "The Caregiving System in Community Mental Health Programs: An Application of Open-Systems Theory." **Community Mental Health Journal** 6(Winter):437-446.
Scott, W. Richard
1965 "Field Methods in the Study of Organizations." Pp. 261-304 in J.G. March (ed.) **Handbook of Organizations.** Chicago: Rand McNally.
Sebring, Robert H.
1977 "Health Councils as a Strategy for Community Change." **Journal of the Community Development Society** 18(Spring):74-85.
Selznick, Philip
1949 **TVA and the Grass Roots.** Berkeley, CA: University of California Press.
Sieber, Samuel
1973 "On the Integration of Fieldwork and Survey Methods." **American Journal of Sociology** 78(May):1335-59.
Simon, Herbert A.
1957 **Administrative Behavior,** 2nd Edition. New York: Free Press.

Simpson, Richard and William Gulley
1962 "Goals, Environmental Pressures, and Organizational Characteristics." **American Sociological Review** 27(June):344-51.
Smith, Howard L., Stephen M. Shortell, and Borje O. Saxberg
1979 "An Empirical Test of the Configurational Theory of Organizations." **Human Relations** 32(August):667-88.
Stern, Robert
1979 "The Development of an Interorganizational Control Network: The Case of Intercollegiate Athletics." **Administrative Science Quarterly** 24(June):2342-66.
1981 "Competitive Influences on the Interorganizational Regulation of College Athletics." **Administrative Science Quarterly** 26(March):15-32.
Suchman, Edward
1967 **Evaluative Research.** New York: Russell Sage Foundation.
Tausky, Curt
1967 "On Organizational Alienation." **American Sociological Review** 32(February):118.
Terreberry, Shirley
1968 "The Evolution of Organizational Environments." **Administrative Science Quarterly** 12(March):590-613.
Tessler, Richard and Howard Goldman
1982 **The Chronically Mentally Ill: Assessing Community Support Programs.** Cambridge, MA: Ballinger.
Thompson, James
1967 **Organizations in Action.** New York: McGraw-Hill.
Thompson, James and William McEwen
1958 "Organizational Goals and Environment: Goal-setting as an Interaction Process." **American Sociological Review** 23(February):23-31.
Torgerson, Warren
1958 **Theory and Methods of Scaling.** New York: Wiley.
Turk, Herman
1970 "Interorganizational Networks in Urban Society: Initial Perspectives in Comparative Research." **American Sociological Review** 35(February):1-18.
1973 "Comparative Urban Structure from an Interorganizational Perspective." **Administrative Science Quarterly** 18(March):37-55.
Turner, J. and W. TenHoor
1978 "The NIMH Community Support Program: Pilot Approach to a Needed Social Reform." **Schizophrenia Bulletin** 4(3):319-408.
Van de Ven, Andrew H.
1976 "A Framework for Organization Assessment." **Academy of Management Review** 1(January):64-78.
Van de Ven, Andrew H., Dennis Emmett, and Richard Koenig, Jr.
1974 "Frameworks for Inter-Organizational Analysis." **Organizational and Administrative Sciences Journal** 5(Spring):113-29.
Van de Ven, Andrew H. and Diane L. Ferry
1980 **Measuring and Assessing Organizations.** New York: Wiley.
Van de Ven, Andrew H. and Gordon Walker
1978 **Pilot Study of Coordination Among Agencies in the Regional Child and Youth Development Council.** Philadelphia: Wharton School, University of Pennsylvania.

Van de Ven, Andrew H., Gordon Walker, and Jennie Liston
1979 "Coordination Patterns Within an Interorganizational Network." **Human Relations** 32(January):19-36.
Warren, Roland
1967 "The Interorganizational Field as a Focus for Investigation." **Administrative Science Quarterly** 12(December):396-419.
1970 "Alternative Strategies of Interagency Planning." Pp. 114-28 In P.E. White and G.J. Vlasak (eds.) **Interorganizational Research in Health Conference.** Washington, DC: National Center for Health Services Research and Development.
1973 "Comprehensive Planning and Coordination: Some Functional Aspects." **Social Problems** 20(February):355-64.
Warren, Roland, Stephen Rose, and Ann Bergunder
1974 **The Structure of Urban Reform.** Lexington, MA: D.C. Heath.
Webb, Eugene, Donald Campbell, Richard Schwartz, and Lee Sechrest
1966 **Unobstrusive Measures: Non-Reactive Research in the Social Sciences.** Chicago: Rand-McNally.
Weick, Karl
1976 "Educational Organizations as Loosely Coupled Systems." **Administrative Science Quarterly** 21(March):1-19.
Whetten, David A.
1981 "Conducting Research on Coordination." In David L. Rogers and David A. Whetten (eds.) **Interorganizational Coordination.** Ames, IO: University of Iowa Press.
Whetten, David A. and Howard Aldrich
1979 "Organizational Set Size and Diversity: People-Processing Organizations and Their Environments." **Administration and Society** 11(November):251-81.
Whetten, David A. and Eugene Szwajkowski
1978 "Relational Variables in Interorganizational Research: Conceptual and Methodological Issues." Urbana, IL: College of Commerce and Business Administration, University of Illinois.
Wholey, Joseph
1979 **Evaluation: Promise and Performance.** Washington, DC: The Urban Institute.
Windle, Charles and D. Scully
1976 "Community Mental Health Centers and the Decreasing Use of State Mental Hospitals." **Community Mental Health Journal** 12:239-243.
Zald, Mayer M.
1969a "The Power and Function of Boards of Directors: A Theoretical Synthesis." **American Journal of Sociology** 75(July):97-111.
1969b "The Structure of Society and Social Service Integration." **Social Science Quarterly** 50(Winter):557-67.
1969c **Power in Organizations.** Nashville, TN: Vanderbilt University Press.
Zeitz, Gerald
1980 "Interorganizational Dialectics." **Administrative Science Quarterly** 26(March):72-88.
Zelditch, Morris
1962 "Some Methodological Problems of Field Studies." **American Journal of Sociology** 67(March):566-76.
Zeller, Richard and Edward Carmines
1980 **Measurement in the Social Sciences.** New York: Cambridge University Press.

Zey-Ferrell, Mary
1979 **Dimensions of Organizations: Environment, Context, Structure, Processes, and Performance.** Santa Monica, CA: Goodyear.

Zober, Edith
1979 **Exchange and Power as Frameworks for the Study of Cooperation and Conflict in Dyadic Relations of Organizations.** Unpublished Doctoral Dissertation, Department of Sociology, Iowa State University.

☆U.S. GOVERNMENT PRINTING OFFICE: 1982-361-166:319